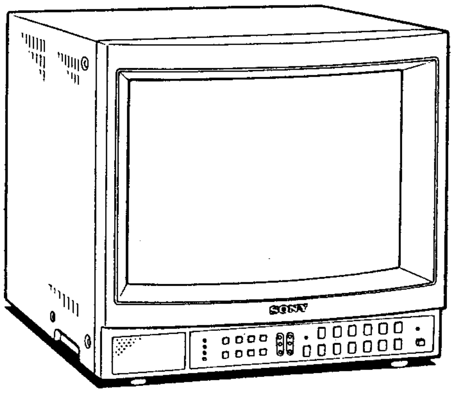
PVM-1443MD

SERVICE MANUAL

AEP Model

Chassis No. SCC-C74A-A



SPECIFICATION

Video signal

Frequency response	Line input: More than 7 MHz (−3 dB) Y/C input: More than 8 MHz (−3 dB) Component input (Y/R-Y/B-Y): More than 8 MHz (−3 dB) R.G.B. input (analog): More than 9 MHz (−3 dB)
Aperture correction	−4.5 to +6.5 dB (at 4.5 MHz)
Synchronization	AFC time constant: 1 msec
Line pull range	Horizontal: ±500 Hz Vertical: 8 Hz

Picture performance

Normal scan	7% overscan of CRT effective screen area
Under scan	3% underscan of CRT effective screen area
H. linearity error	Less than 4%
V. linearity error	Less than 5%
Convergence	Central area: 0.6 mm Peripheral area: 0.8 mm
Raster size stability	H: 1.0%, V: 1.5%
High voltage regulation	3%
Audio output	0.6 W (Max.)
CRT	EBU
Color temperature	6,500°K/9,300°K (+8MPCD), selectable
AC regulation range	220 - 240 V AC, 50/60 Hz
Power consumption	Approx. 75 Wh

Inputs

VIDEO IN: BNC connector
AUDIO IN: phono jack
VTR: 8-pin connector
Y/C-INPUT
  VIDEO: 4-pin connector
  AUDIO: phono jack
EXT SYNC: BNC connector
  composite sync 1 – 4 Vp-p, negative, 75 ohms terminated, automatically released when cable is connected to the output connector.
ANALOG RGB: BNC connector
  0.7 Vp-p, ±6 dB, non composite
  75 ohms terminated, automatically released when cable is connected to the output connector.
DIGITAL RGB: 9-pin connector
CTRL S: Minijack

Outputs

VIDEO OUT: BNC connector
  Loop-through
AUDIO OUT: Phono jack
  Loop-through
EXT SYNC: BNC connector
  Loop-through
ANALOG RGB: BNC connector
  Loop-through
CTRL S: Minijack
  Loop-through

General

Dimensions	Approx. 346 × 340 × 412 mm (w/h/d) (13$^{5}/_{8}$ × 13$^{1}/_{2}$ × 16$^{1}/_{4}$ inches)
Weight	Approx. 16.5 kg (36 lb 6 oz)

– Continued on next page –

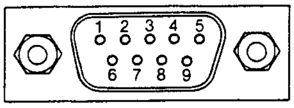
MICROFILM

TRINITRON® COLOR VIDEO MONITOR

SONY®

Pin assignment

DIGITAL RGB connector (9-pin)



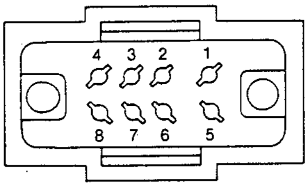
Pin No.	Signal	Signal level
1	GND (ground)	GND
2	GND for the signal	GND
3	Red input	Positive polarity (TTL level)
4	Green input	↑
5	Blue input	↑
6	Intensity	↑
7	NC (no connection)	—
8	H-SYNC	Positive or negative polarity (TTL level)
9	V-SYNC	Same polarity as H-SYNC (TTL level)

Note

If the intensity function of Pin No. 6 is not used, set the internal switch on the Qd board to the B position, and connect the Pin No. 6 to the GND. With this setting, when the positive intensity signal synchronized to the characters on the screen is fed, the luminance of the characters will be increased.

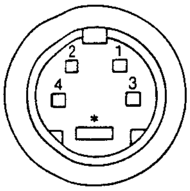
If the specific intensity function, such as that of an IBM microcomputer, is used, set the internal switch on the Qd board to the A position, and feed the intensity control signal to Pin No. 6.

VTR connector (8-pin)



Pin No.	Signal	Description
1	Audio input	−5 dBs, high input impedance (more than 47 kilohms)
2	Video input	Composite 1 Vp-p, sync negative, 75 ohms
3	GND	GND
4	NC	—
5	GND	GND
6	GND	GND
7	GND	GND
8	GND	GND

Y/C (Y/C separate) INPUT connector (4-pin)



Pin No.	Signal	Description
1	Y-input	1 Vp-p, sync negative, 75 ohms
2	CHROMA sub-carrier-input	300 mVp-p, burst Delay time between Y and C: within 0±100 nsec., 75 ohms
3	GND for Y-input	GND
4	GND for CHROMA-input	GND
*	(Slot for internal switch)	Press the switch inside this slot. The signal from Y/C-INPUT connector has priority over the one from VTR (8-pin) connector.

Design and specifications subject to change without notice.

TABLE OF CONTENTS

Section Title Page

1. GENERAL
   - 1-1. Features 4
   - 1-2. Location and Function of Parts and Controls 4

2. DISASSEMBLY
   - 2-1. Rear Cover and Top Cover Removal 7
   - 2-2. Terminal Board Removal 7
   - 2-3. When you replace the Power Cord 7
   - 2-4. Bracket of Terminal Board Removal 8
   - 2-5. Control Unit Removal 8
   - 2-6. Note on Wiring the Troidal Coil and It's Peripheral Part 8
   - 2-7. Picture Tube Removal 9

3. SET-UP ADJUSTMENTS
   - 3-1. Beam Landing 10
   - 3-2. Convergence 11
   - 3-3. Focus 12
   - 3-4. White Balance 13

4. SAFETY RELATED ADJUSTMENTS 14

Section Title Page

5. CIRCUIT ADJUSTMENTS
   - 5-1. A Board Adjustments 16
   - 5-2. XA Board Adjustment 19
   - 5-3. BA Board Adjustments 20

6. DIAGRAMS
   - 6-1. Frame Schematic Diagram 22
   - 6-2. Block Diagrams 24
   - 6-3. Printed Wiring Boards 32
   - 6-4. Circuit Boards Location 37
   - 6-5. Schematic Diagram 37
   - 6-6. Semiconductors 57

7. EXPLODED VIEWS
   - 7-1. Chassis 59
   - 7-2. Picture Tube 60

8. ELECTRICAL PARTS LIST 61

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL TO SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

SECTION 1
GENERAL

1-1. FEATURES

Automatic white balance circuit
The automatic white balance circuit compensates for the beam distortion, secular distortion of the cathode-ray tube, etc., and always reproduces the same white display on the screen. This allows an extended use of the monitor.

Super Fine Pitch Trinitron picture tube
The Super Fine Pitch Trinitron picture tube (0.25 mm aperture grill) gives high resolution picture. Horizontal resolution is more than 600 TV lines at the center of the picture. When used as a character display, up to 2,000 characters (80 characters/line × 25 lines) can be displayed with great clarity.

Analog RGB connector
Analog RGB signal of a video equipment can be input through this connector.

Digital RGB input connector
Digital RGB signal from a microcomputer can be input through this connector.

Y/C input connector
The video signal split into the chrominance signal (C) and the luminance signal (Y) can be input through this connector, eliminating the interference between the two signals which tends to occur in a composite video signal and assuring the video quality.

VTR input connector
When connected to a VTR having the 8-pin TV connector, video and audio signals can be fed through this connector with a single cable.

Control S connector
When this connector is connected to the "control S" output of other equipment, the remote controls of the aperture, brightness, chroma, phase, contrast and volume settings are possible.

Automatic release of BNC-type connector termination
The BNC-type input connector is terminated at 75 ohms inside when the BNC-type output connector is open. When a cable is connected to the BNC-type output connector, the 75-ohm termination is automatically released, and the signal input through the IN connector is output from the corresponding OUT connector.

Four color systems available
The monitor can display PAL, SECAM, NTSC$_{3.58}$ and NTSC$_{4.43}$* signals. The appropriate color system is selected automatically.

- * A signal of NTSC$_{4.43}$ is obtained by playing back NTSC-recorded video cassettes with a video tape recorder/player especially designed for use with this system.

Comb Filter
When NTSC video signals are received, a comb filter activates to increase the resolution, resulting in fine picture detail without color spill or color noise.

Blue only mode
In the blue only mode, an apparent monochrome display is obtained with all three cathodes driven with a blue signal. This facilitates color saturation and phase adjustments and observation of VTR noise.

Underscan mode
The signal normally scanned outside of the screen can be monitored in the underscan mode.

Note

The bright scanning lines which may appear on the top edge of the screen when the monitor is in the underscan mode are caused by an internal test signal, rather than the input signal.

Horizontal/vertical delay mode
The horizontal and vertical sync signals can be checked simultaneously in the H/V delay mode.

External sync input
When the ANALOG/DIGITAL (EXT SYNC) button is depressed, the monitor can be operated on the sync signal supplied from an external sync generator.

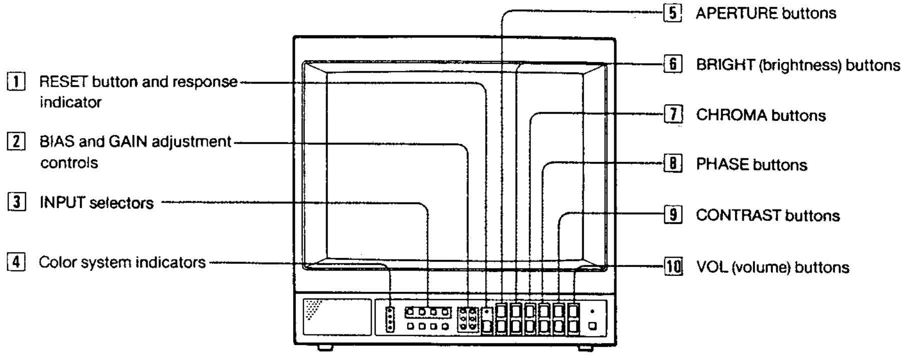
Color temperature selector
Color temperature of either 9,300°K or 6,500°K is selectable with the COLOR TEMP selector. For precise adjustment, use the BIAS and GAIN adjustment controls.

Light-touch picture adjustment buttons
The aperture, brightness, chroma, phase, contrast and volume buttons can be adjusted by touching the buttons lightly. The adjusted settings will be stored in memory even when the monitor is turned off.

EIA standard 19-inch rack mounting
By using an optional MB-502A mounting bracket, the monitor can be mounted in an EIA standard 19-inch rack. An optional SLR-102 slide rail is also available. For details on mounting, see the appropriate instruction manual.

1-2. LOCATION AND FUNCTION OF PARTS AND CONTROLS

Front panel



1 RESET button and response indicator
2 BIAS and GAIN adjustment controls
3 INPUT selectors
4 Color system indicators
5 APERTURE buttons
6 BRIGHT (brightness) buttons
7 CHROMA buttons
8 PHASE buttons
9 CONTRAST buttons
10 VOL (volume) buttons

$\boxed{1}$ **RESET button and response indicator**
Press to return the PHASE, CHROMA, BRIGHT and APERTURE control settings to the factory set levels. The response indicator flashes when the above buttons or the RESET button is pressed.

$\boxed{2}$ **BIAS and GAIN adjustment controls**
Used for white balance adjustment.
GAIN and BIAS controls are provided for the R (red), G (green) and B (blue) screens.
BIAS: Adjust the white balance and brightness of the screen at the lowlight with these controls.
GAIN: Adjust the white balance and contrast of the screen at the highlight with these controls.

$\boxed{3}$ **INPUT selectors**
Press to select the program to be monitored.
A: for a signal fed through the LINE A connectors.
B: for a signal fed through the LINE B connectors.
Y/C/VTR: for a signal fed through the Y/C-INPUT connectors or VTR connector.
When both the Y/C-INPUT and VTR connectors are connected to video equipment, the input signal fed through the Y/C-INPUT connector has priority over the one fed through the VTR connector.
RGB: for a signal fed through the ANALOG RGB connectors or DIGITAL RGB connector selected with $\boxed{14}$ ANALOG/DIGITAL (EXT SYNC) button.

$\boxed{4}$ **Color system indicators**
The indicator of the color system being received lights up in red.

$\boxed{5}$ **APERTURE buttons**
Press + for more sharpness or − for less.

$\boxed{6}$ **BRIGHT (brightness) buttons**
Press + for more brightness or − for less.

$\boxed{7}$ **CHROMA buttons**
Press + for more color intensity or − for less.

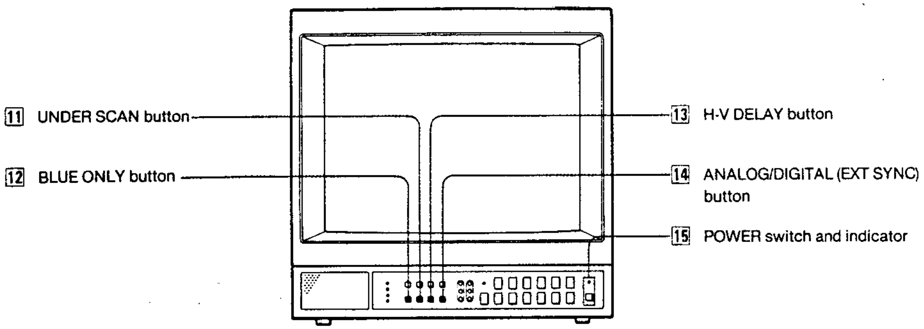
$\boxed{8}$ **PHASE buttons**
This button is effective only for the NTSC$_{3.58}$ and NTSC$_{4.43}$ color system.
Press GRN (green) to make the skin tones greenish or PUR (purple) to make them purplish.

Note

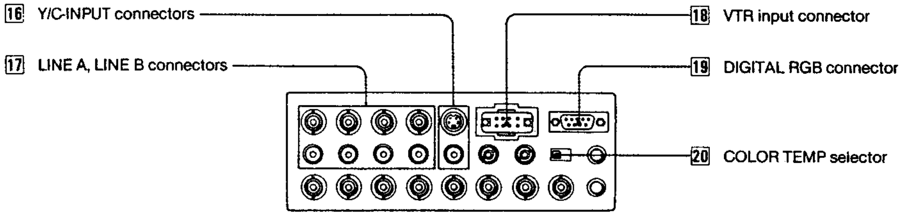
The APERTURE, CHROMA, PHASE control settings have no effect on the pictures of analog RGB or digital RGB signals.

$\boxed{9}$ **CONTRAST buttons**
Press + to make the contrast, color intensity and brightness stronger or − to make them weaker.

$\boxed{10}$ **VOL (volume) buttons**
Press + for more volume or − for less.


11 UNDER SCAN button
12 BLUE ONLY button
13 H-V DELAY button
14 ANALOG/DIGITAL (EXT SYNC) button
15 POWER switch and indicator

Rear panel



11 UNDER SCAN button

Depress for underscanning. The display size is reduced by approximately 3% so that four corners of the raster are visible.

12 BLUE ONLY button

Depress to turn off the red and green signals. A blue signal is displayed as an apparent monochrome picture on the screen. This facilitates "chroma" and "phase*" control adjustments and observation of VTR noise.

* "Phase" control adjustment is effective only for the NTSC signals.

13 H-V DELAY button

Depress to observe the horizontal and vertical sync signals at the same time.
The horizontal sync signal is displayed in the left quarter of the screen; the vertical signal is displayed near the center of the screen.

14 ANALOG/DIGITAL (EXT SYNC) button

This button functions as ANALOG/DIGITAL selector and EXT SYNC selector.

As ANALOG/DIGITAL selector
Depress to monitor a signal fed through the ANALOG RGB connectors.
Release to monitor a signal fed through the DIGITAL RGB connector.

For EXT SYNC selector
Depress to operate the monitor on an external sync signal fed through the EXT SYNC connector on the rear panel (EXT).
Release to operate the monitor on the sync signal from the displayed composite video signal (INT).

15 POWER switch and indicator

Depress to turn the monitor on.
The indicator will light up in green.
Press the switch again to turn the monitor off.

Picture Adjustment Buttons

The picture adjustment buttons operate in the following input mode (indicated as "Yes").

Input mode / Button	• LINE A, LINE B • Y/C • VTR	• Digital RGB • Analog RGB
APERTURE	Yes	No
BRIGHT	Yes	Yes
CHROMA	Yes	No
PHASE	Yes (NTSC only)	No
CONTRAST	Yes	Yes
VOL	Yes	No

16 Y/C-INPUT connectors

VIDEO (4-pin): Connect to the Y/C separate output of a video camera or a VTR.
AUDIO: Connect to the audio output of a video camera or a VTR.
To monitor the input signal fed through these connectors, press the Y/C/VTR button on the front panel.

17 LINE A, LINE B connectors

Two groups (A and B) of line input connectors for the composite video and audio signals and their loop-through output connectors.
To monitor the input signal fed through these connectors, press the A or B button on the front panel.

VIDEO IN (BNC type): Connect to the video output of a video equipment, such as a VTR or a color video camera.
VIDEO OUT (BNC type): Loop-through output of the VIDEO IN connector. Connect to the video input for a VTR or another monitor.
When the cable is connected to this connector, the 75-ohm termination of the input is automatically released, and the signal input to the VIDEO IN connector is output from this connector.
AUDIO IN (phono jack): Connect to the audio output of a VTR or to a microphone via a suitable microphone amplifier.
AUDIO OUT (phono jack): Loop-through output of the AUDIO IN jack. Connect to the audio input of a VTR or another monitor.

18 VTR input connector (8-pin)

Line input for the video and audio signals. When connected to the 8-pin TV connector of a VTR, the video and audio playback signal from the VTR can be input through a single cable.
To monitor the input signal fed through this connector, press the Y/C/VTR button on the front panel, with the Y/C-INPUT connectors connected to no outputs.
When both VTR and Y/C-INPUT connectors are connected to video equipment, the input signal fed through the Y/C-INPUT connectors has priority over the one fed through the VTR connectors.

19 DIGITAL RGB connector (9-pin)

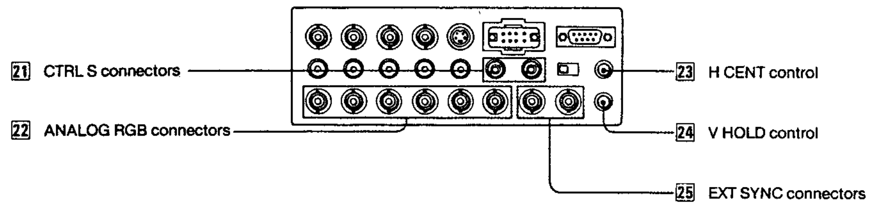
Connect with a microcomputer having a digital (TTL level) RGB video output.
To monitor the input signal fed through this connector, press the RGB button and keep the ANALOG/DIGITAL (EXT SYNC) button released.

Note

For connection of digital RGB signal, be sure to use an optional SMF-520 connecting cable.

20 COLOR TEMP (temperature) selector

Select the color temperature position, 9300°K or 6500°K.



21 **CTRL S (control S) connectors** (minijack)
For remote control of the APERTURE, BRIGHT, CHROMA, PHASE, CONTRAST and VOL control buttons.
IN: Connect to the "control S" output of other equipment.
OUT: Connect to the CTRL S IN connector of another monitor by using a connecting cord (miniplug↔miniplug).

22 **ANALOG RGB connectors** (BNC type)
R/G/B IN: Connect to the analog R/G/B outputs of a video camera.
To monitor a signal fed through these connectors, press the RGB button and depress the ANALOG/DIGITAL (EXT SYNC) button.
R/G/B OUT: Loop-through outputs of the R/G/B IN connectors. Connect to the analog R/G/B inputs of a video camera.
When the cable is connected to these connectors, the 75-ohm termination of the input is released, and the signal input to the R/G/B IN connectors is output from these connectors.

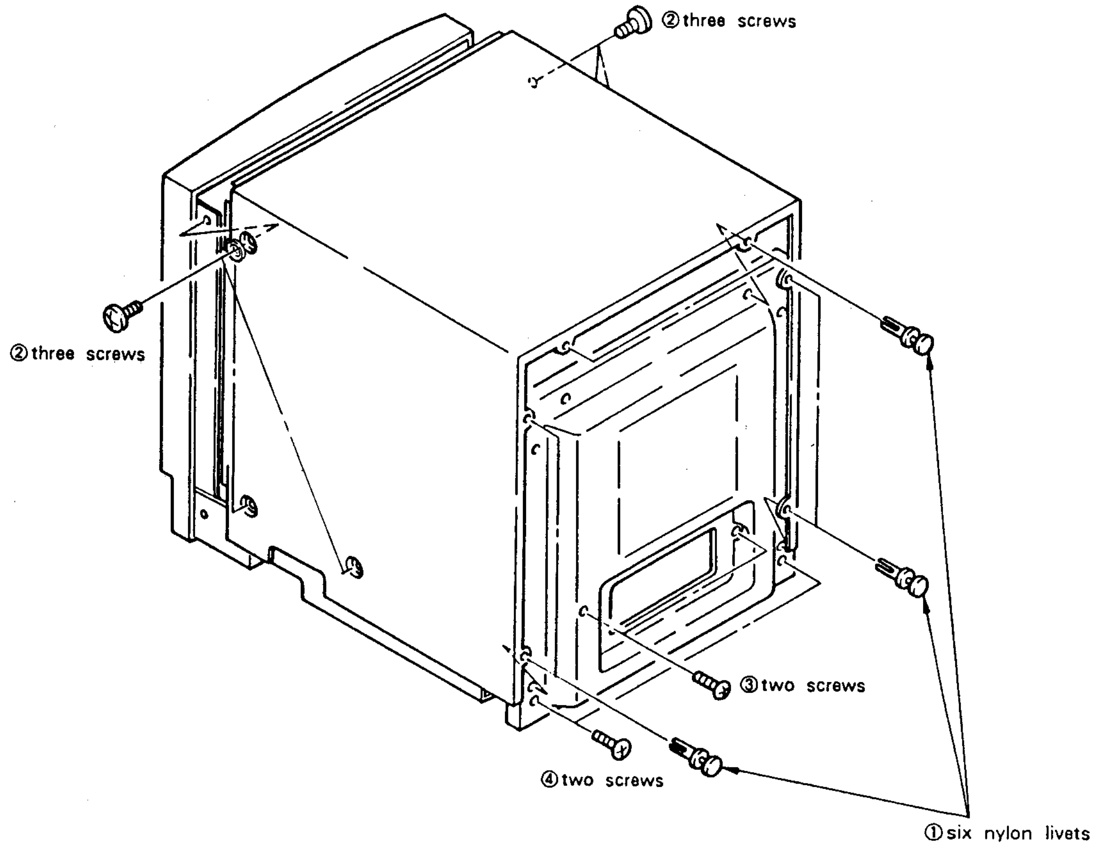
23 **H CENT (horizontal centering) control**
When a digital R/G/B signal is monitored, turn to center the picture if it is decentered.

24 **V HOLD (vertical hold) control**
Turn to stabilize the picture if it rolls vertically.

25 **EXT SYNC (external sync) connectors** (BNC type)
IN: Connect to the output of a sync generator.
To monitor the sync signal fed through this connector, depress the ANALOG/DIGITAL (EXT SYNC) button.
OUT: Loop-through output of the SYNC IN connector.
Connect to the SYNC input of a video camera.
When the cable is connected to this connector, the 75-ohm termination of the input is released, and the signal input to the IN connector is output from this connector.

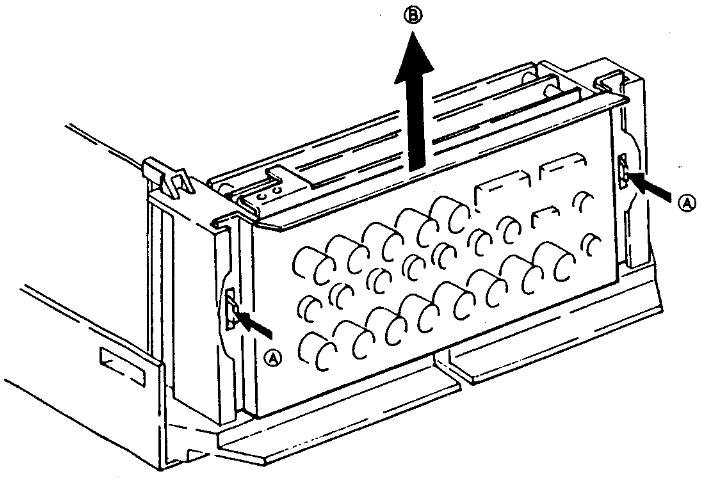
SECTION 2
DISASSEMBLY

2-1. REAR COVER AND TOP COVER REMOVAL


②three screws
②three screws
③two screws
④two screws
①six nylon livets

2-2. TERMINAL BOARD REMOVAL

Note : When you remove terminal board, pull out A board a short distance.



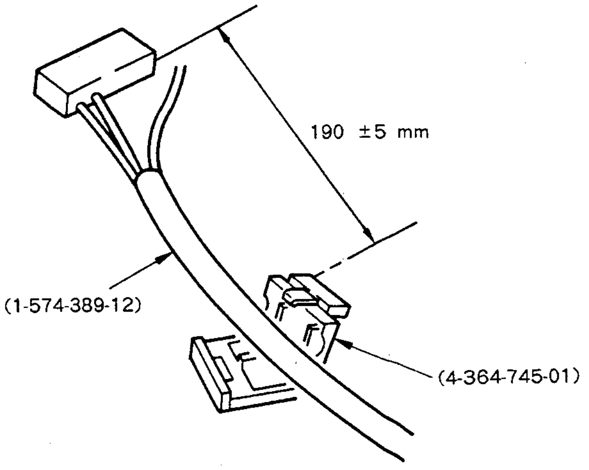
①Remove the terminal board as arrow Ⓑ while push the two claws as arrow Ⓐ.

2-3. WHEN YOU REPLACE THE POWER CORD

Note :

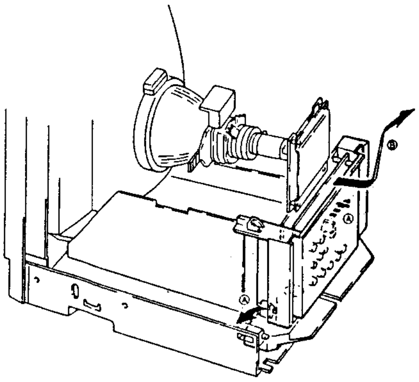
When you replace the power cord (1-574-389-12), also replace the power cord holder (4-364-745-01) with new one.

The power cord holder must be placed at the position indicated in the illustration below.

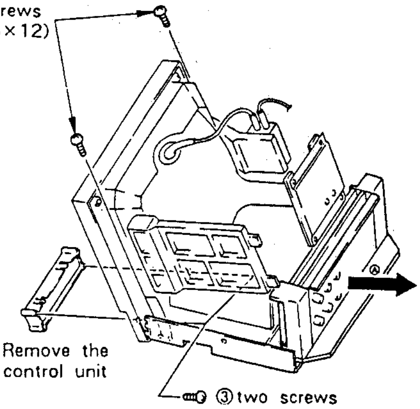

190 ±5 mm
(1-574-389-12)
(4-364-745-01)

2–4. BRACKET OF TERMINAL BOARD REMOVAL

①Remove the bracket of terminal board as arrow Ⓑ while extend two claws as arrow Ⓐ.



2–5. CONTROL UNIT REMOVAL



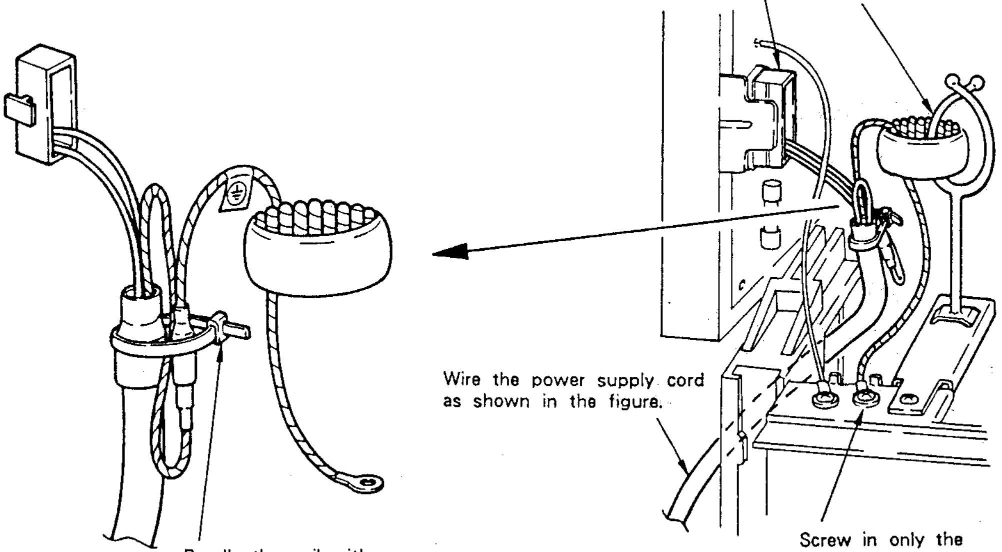
②four screws (BVTP3×12)

①Pull out the cabinet of bottom as arrow Ⓐ.

④Remove the control unit

③two screws

2–6. NOTE ON WIRING THE TROIDAL COIL AND IT'S PERIPHERAL PART



Fix the troidal coil with 15 mm dia. Pulse Lock.

Wire the power supply cord as shown in the figure.

Bundle the coil with a tie band.

Screw in only the lug terminal. Never connect the commom.

2−7. PICTURE TUBE REMOVAL

NOTE : Caution for ANODE CAP installation.

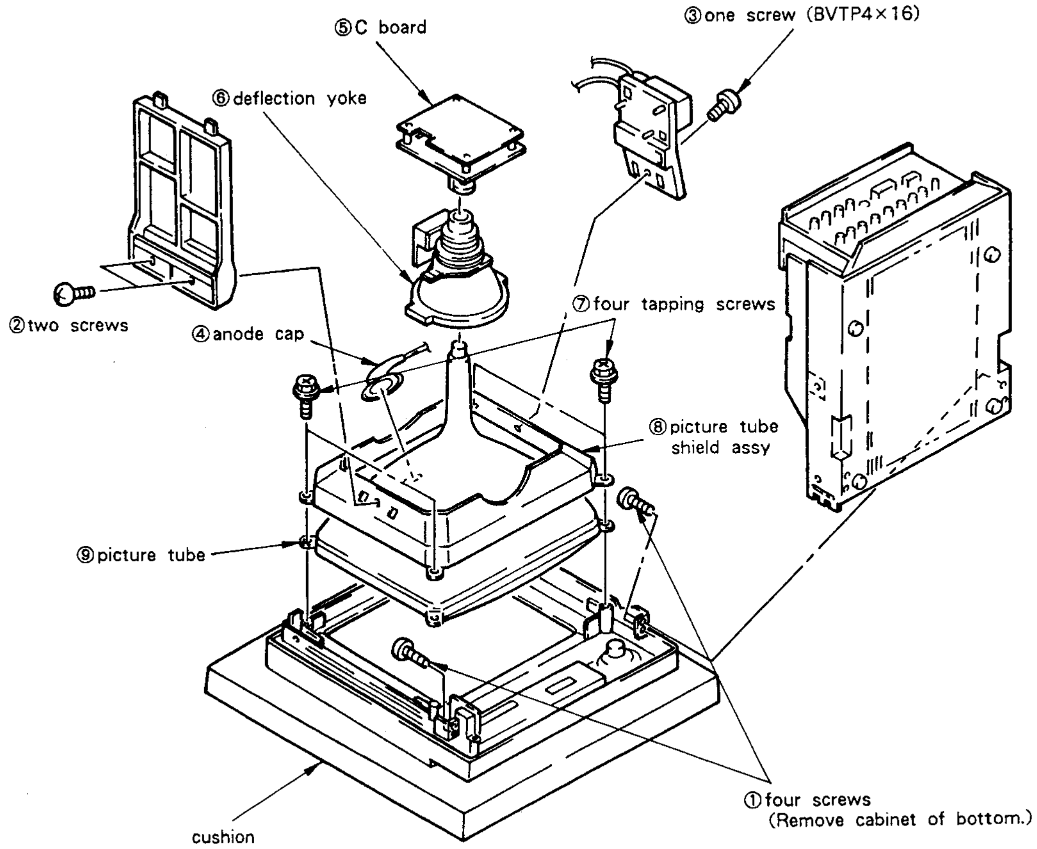
When you replace PICTURE TUBE or FBT, remove RTV on ANODE CAP so that PICTURE TUBE and FBT can be separated. Please adhere picture tube and anode cap in accordance with the following procedure.

ADHERING PROCEDURE OF ANODE CAP.

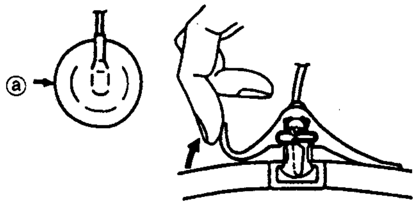
1. Clean PICTURE TUBE ANODE CAP with ethnaol to remove original RTV.
2. Dry clean face with air.
3. Use KE-490RTV (RTV silicone adhesive, SHIN-ETSU CHEMICAL).

Part. No.	Description
7-322-065-19	Silicone (RTV) KE-490W

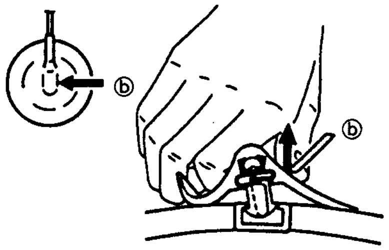
4. Install ANODE CAP.
5. Adeguately apply RTV to the entire picture tube anode area, piace the anode cap onto the picture tube and push it down securety so that no air pockets remain beneath the cap.
6. Dry more than 12 hours at room temperature.


⑤C board
③one screw (BVTP4×16)
⑥deflection yoke
②two screws
④anode cap
⑦four tapping screws
⑧picture tube shield assy
⑨picture tube
①four screws (Remove cabinet of bottom.)
cushion

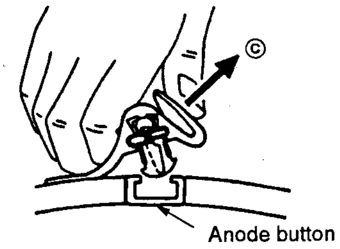
- **REMOVAL OF ANODE-CAP**
- **REMOVING PROCEDURES**



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
Anode button

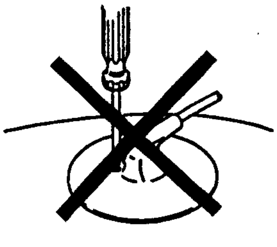
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

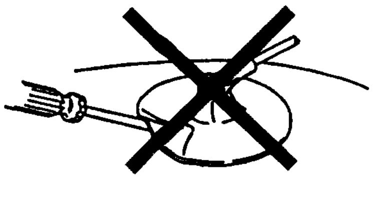
- **HOW TO HANDLE AN ANODE-CAP**

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A metal fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3

SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless ontherwise noted.

The control and switch below should be set as follows unless otherwise noted :

CONTRAST control ········· 80%
BRIGHTNESS control ······· 50%

Perform the adjustments in order as follows :

3−1. Beam Landing
3−2. Convergence
3−3. Focus
3−4. White Balance

Note : Test Equipment Required.

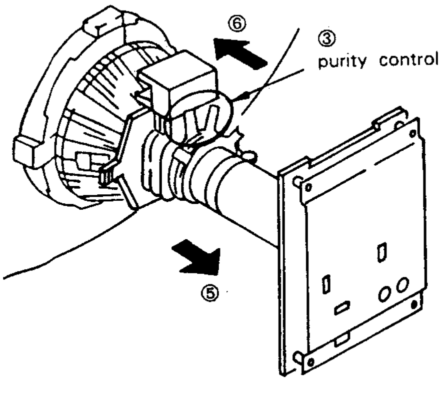
1. Color Bar/Pattern Generator
2. Degausser
3. Color Annalyzer (Minolta)
4. Luminance Level Meter
5. Oscilloscope

Preparation

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

3−1. BEAM LANDING

1. Receive an entirely white signal with the pattern generator.
   CONTRAST ········· MAX.
   BRIGHTNESS ······· set easy to observe
2. Adjust the focus and the horizontal convengence roughly.
3. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Fig. 3−1.
4. Switch over the pattern generator to green.
5. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and blue and red are at the sides, evenly. (Fig. 3−2)
6. Move the deflection yoke forward, and adjust so that the entire screen becomes green. Repeat 5 to 7 as to red and blue.
7. When landing at the corners is not right, correct by using the magnet. (Fig. 3−3)
8. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.



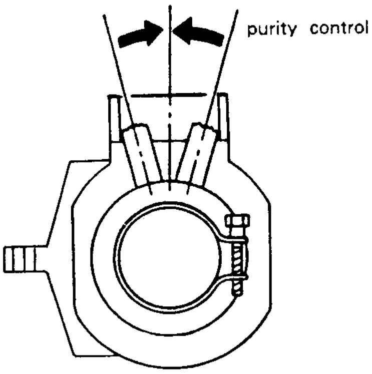


Fig. 3−1

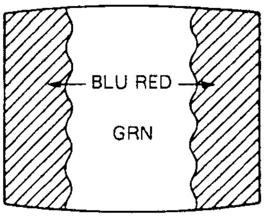
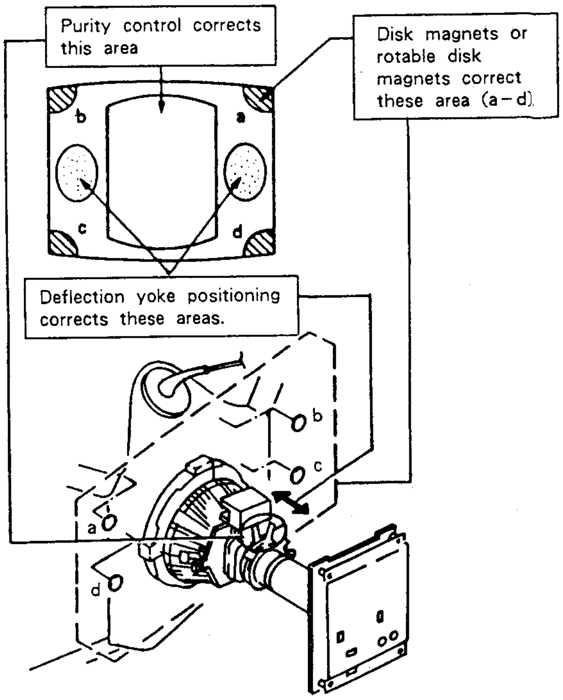


Fig. 3−2


Purity control corrects this area

Disk magnets or rotable disk magnets correct these area (a−d)

Deflection yoke positioning corrects these areas.

Fig. 3−3

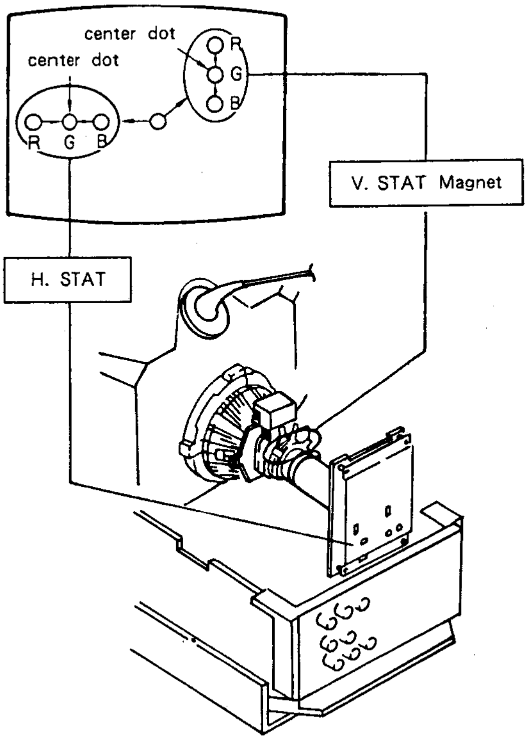
3-2. CONVERGENCE

(1) **Horizontal and Vertical Static Convergence Adjustment on the Center of Screen.**

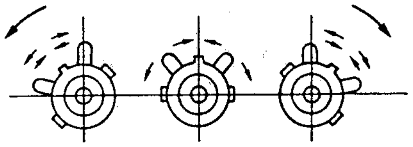
- Before starting, perform V. SIZE, V. CENT, H. SIZE, H. CENT and Screen Distortion adjustment rightly.

(Static Convergence Adjustment)

1. Receive a dot signal and Set CONTRAST to normal.
2. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen. (Horizontal movement)
3. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen. (Vertical movement)

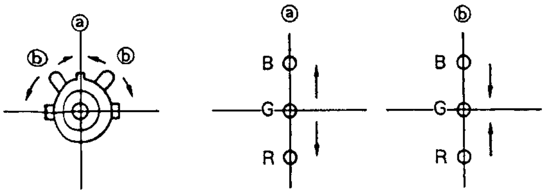

center dot
center dot
R
G
B
R G B
V. STAT Magnet
H. STAT

※ If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform adjustment using V. STAT at the same time while tracking.
Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.

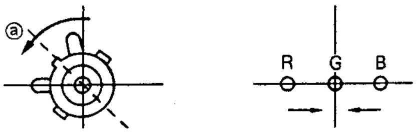


- When the V. STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green and blue dots move as shown below.

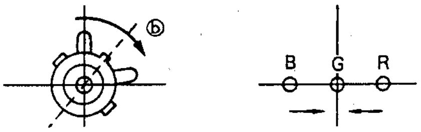
① When moving the V. STAT Magnet open or close.



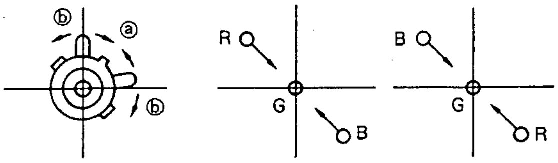
② When moving the V. STAT magnet counterclockwise.



③ When moving the V. STAT magnet clockwise.



④ When tilt the V. STAT magnet and open or close.

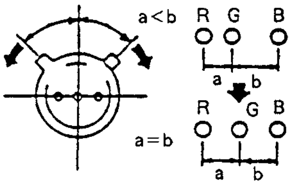


※ If the red and green dots do not coincide with blue dot, adjustment with BMC (6-poles) magnet.

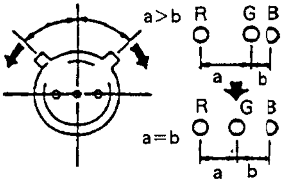
- **HMC and VMC correction for BMC (6-Poles) magnet.**

1. HMC (Horizontal Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

HMC Correction (A)

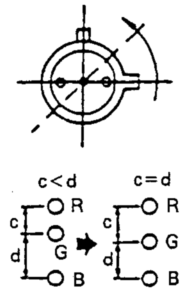

a<b
R G B
a b
R G B
a=b
a b

HMC Correction (B)

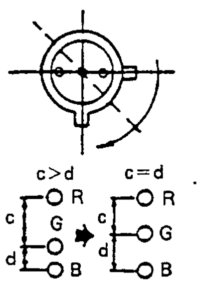

a>b
R G B
a b
R G B
a=b
a b

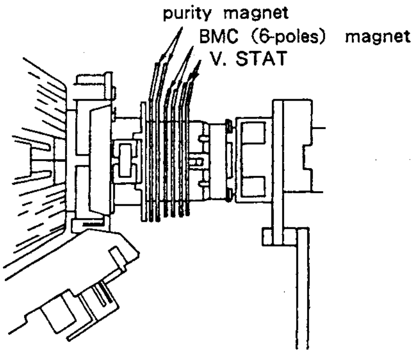
2. VMC (Vertical Misconvergence) correction and motion of the Electron Beam with the BMC (6-poles) magnet.

VMC Correction (A)


c<d
c=d
R
G
B
c
d
R
G
B
c
d

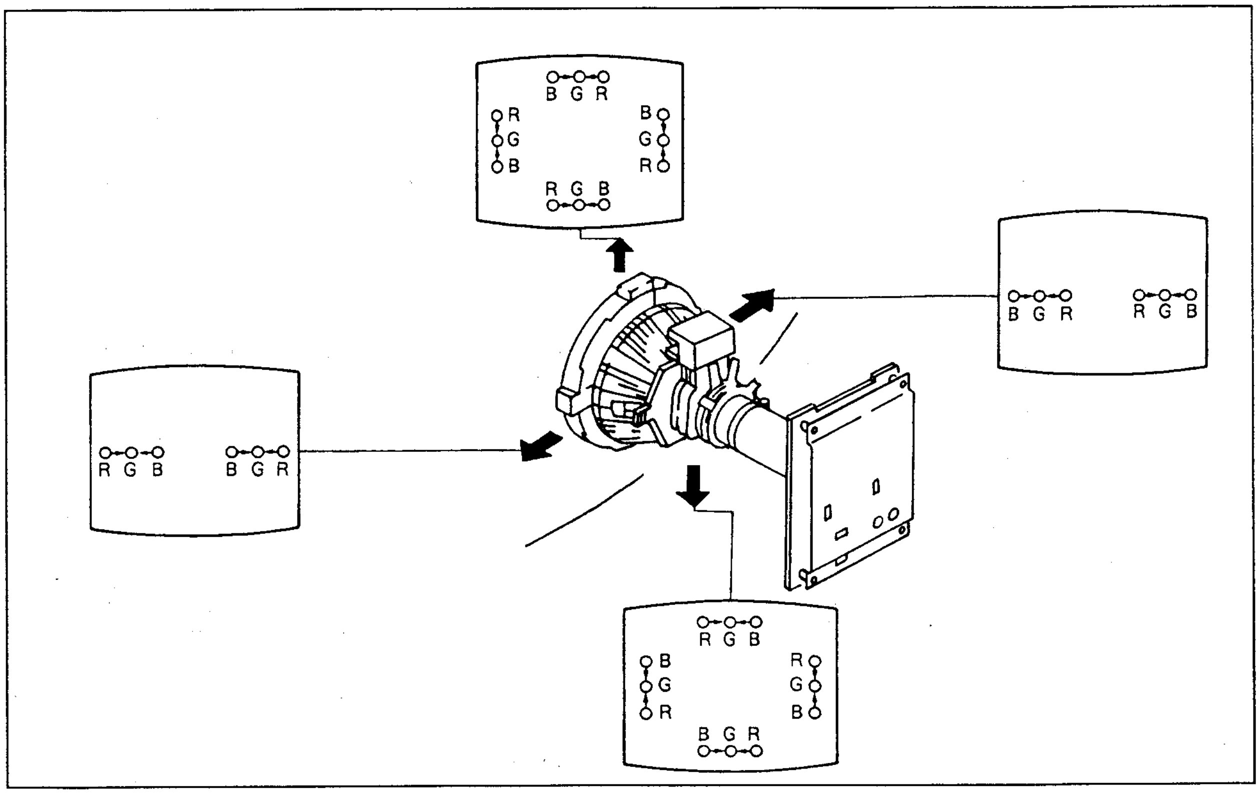
VMC Correction (B)


c>d
c=d
R
G
B
c
d
R
G
B
c
d

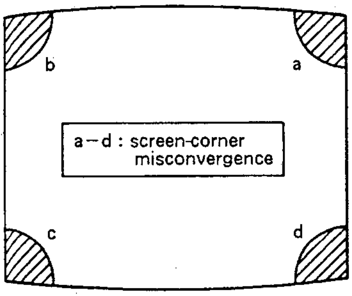

purity magnet
BMC (6-poles) magnet
V. STAT

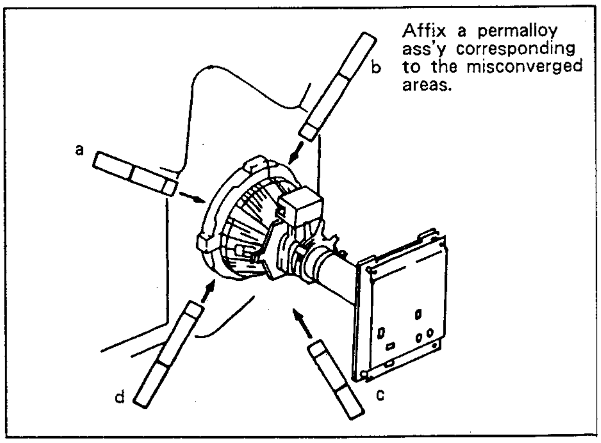
(2) **Horizontal and Vertical Dynamic Convergence Adjustment the environs of the Screen**
(Dynamic Convergence Adjustment)

1. Loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence.
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.


B G R
R
G
B
B
G
R
R G B
B G R
R G B
R G B
B G R
R G B
B
G
R
R
G
B
B G R

(3) **Screen-corner Convergence**


b
a
a – d : screen-corner misconvergence
c
d



Affix a permalloy ass'y corresponding to the misconverged areas.

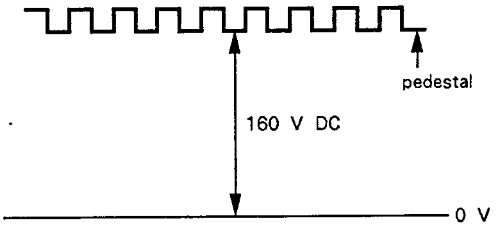
3-3. FOCUS

1. Receive the broadcast.
2. CONTRAST ········· Normal
3. Adjust RV707 so that the focus on the center of screen becomes to the best.

3–4. WHITE BALANCE

〔**Screen (G2) Voltage**〕

1. Receive a dot signal with the pattern generator.
2. Switch over COLOR TEMP to 6500° K.
3. Using oscilloscope, adjust with RV1710 (SUB BRT) on V board so that the green cathode voltage against ground becomes 160 V DC.
4. Similarly, adjust with RV1704 (B BKG) and RV1705 (R BKG) on V board so that the blue and red cathode voltages become 160 V DC.

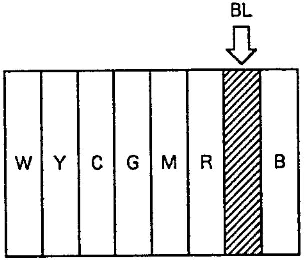


5. Observing the screen, adjust with RV709 (SCREEN) on C board so that the back-ground of the dot signal is bright dimly.

〔**White Balance**〕

1. Receive a color-bar pattern signal with the pattern generator, and to make black and white screen by chroma switch off.
2. • BRIGHTNESS ············ 50%
   • CONTRAST ················ Minimum
   • CHROMA ··················· 50%
   • DRIVE volume
     (V BOARD) ·············· mechanical center
   • BKG volume
     (V BOARD) ·············· mechanical center
3. Adjust RV1710 (SUB BRIGHT) so that the blue stripe portion on the color-bar pattern signal is bright dimly.

color-bar pattern



4. Receive an entirely white signal from the pattern generator.
5. CONTRAST ·················· 70%
6. Using the luminance level meter, adjust the luminance level of the pattern generator becomes 8 Nit. (The condition the screen is bright dimly.)
7. Adjust with the color analyzer the white balance.
8. Reset the luminance level of the pattern generator, and adjust the white balance. (High light condition.)

SECTION 4

SAFETY RELATED ADJUSTMENTS

CONFIRMATION WHEN REPLACING H.V.R (High Voltage Resistor)

The following adjustment should be confirm the output voltage when replacing HVR.

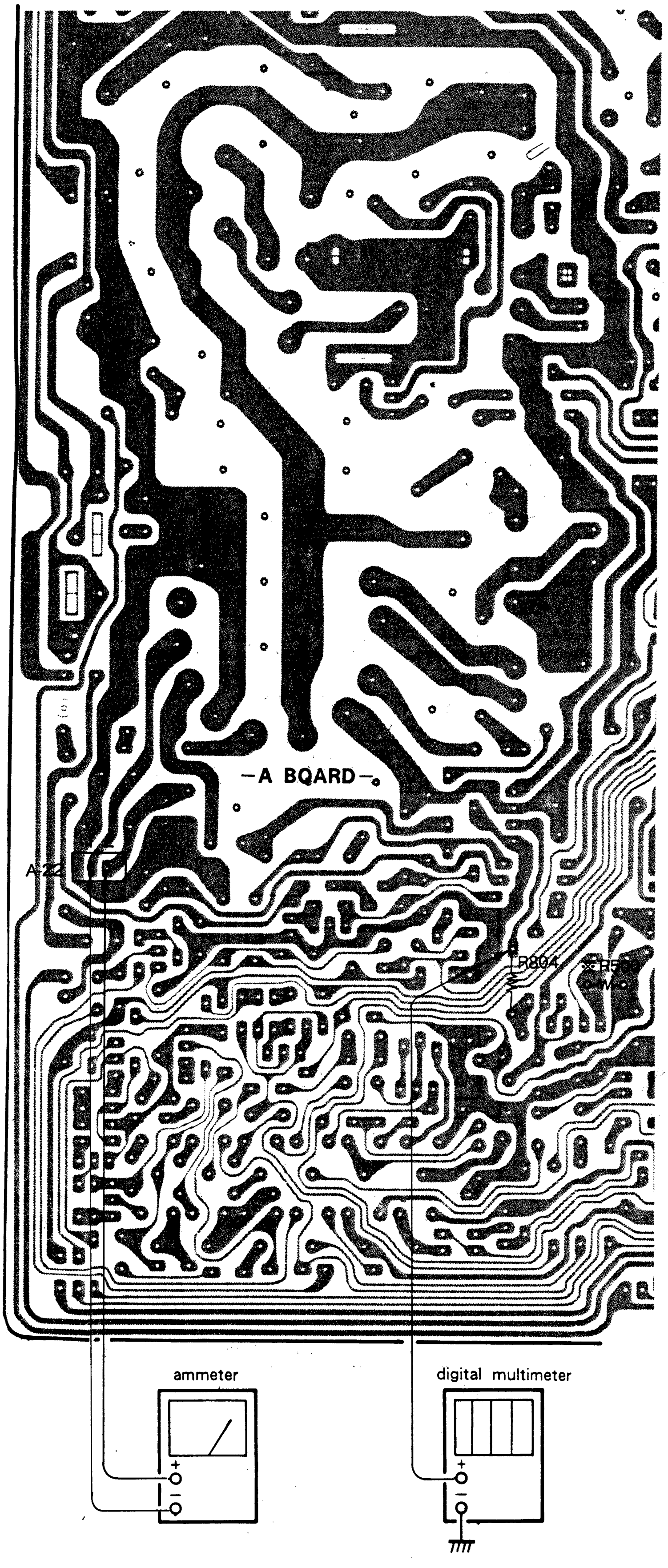
1. Receive an entire white signal.
2. ● CONTRAST ············ Maximum
   ● BRIGHTNESS ········· Maximum
3. Connect a digital multimeter to the A-20 connector side lead of R804.
4. Confirm the voltage is 14.1 ±1.0 V DC.

※R500, CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components.

IC501, Q503, Q504, Q505, Q506,
D509, D510, C505, C520, C524,
C525, C526, C527, C528, C529,
C530, C531, R500, R506, R516, } on A board
R517, R518, R519, R520, R521,
R522, R523, R524, R525, R526,
R528, R804, NL501, HVR

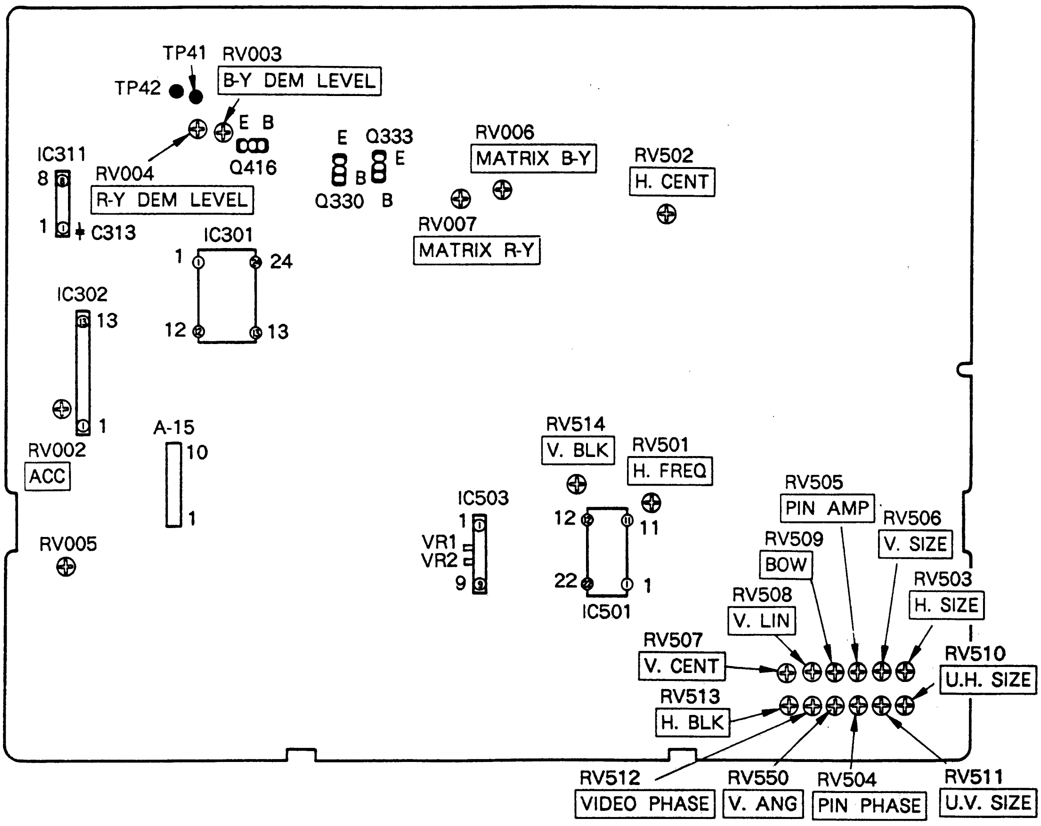
1. Receive an entire white signal.
2. ● CONTRAST ············ Maximum
   ● BRIGHTNESS ········· Maximum
3. Connect a digital multimeter to the A-20 connector side lead of R804.
4. Confirm the voltage is 14.1 ±1.0 V DC.
5. Receive a dot signal.
6. Disconnect A-22 connector (ABL JIG) on A board and connect an ammeter.
7. Adjust BRIGHTNESS and CONTRAST so that the current is 70 ±30 μA.
8. Apply an external DC voltage gradually to the A-20 connector side lead of R804, and when the voltage becomes 16.4 ±0.1 V DC, confirm the HOLD-DOWN circuit operates immediately and raster disappears.
9. With the same procedure of item 8, when the voltage becomes 15.8 ±0.1 V DC, confirm the HOLD-DOWN circuit doesn't operate.
10. Receive an entire white signal.
11. Adjust with BRIGHTNESS and CONTRAST volumes so that the current is 600 ±40 μA.
12. Apply DC voltage to the A-20 connector side lead of R804, and when the voltage becomes 15.8 ±0.1 V DC, confirm the HOLD-DOWN circuit operates immediately and raster disappears.
13. With the same procedure of item 8, when the voltage becomes 15.2 ±0.1 V DC, confirm the HOLD-DOWN circuit doesn't operate.
14. When step 4 to 13 is not satisfied, readjustment should be performed by altering the resistance value of R500 (※).


-A BOARD-
A-22
R804
R500
ammeter
+
−
digital multimeter
+
−

SECTION 5
CIRCUIT ADJUSTMENTS

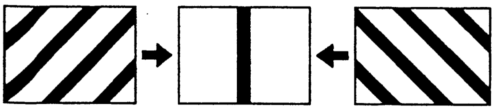
5-1. A BOARD ADJUSTMENTS

-A BOARD (COMPONENT SIDE) -


TP41
RV003
TP42
B-Y DEM LEVEL
E B
Q416
IC311
8
1
RV004
R-Y DEM LEVEL
C313
E Q333
E
B
Q330 B
RV006
MATRIX B-Y
RV007
MATRIX R-Y
RV502
H. CENT
IC301
1
24
12
13
IC302
13
1
RV002
ACC
A-15
10
1
RV005
IC503
1
VR1
VR2
9
RV514
V. BLK
RV501
H. FREQ
12
11
22
1
IC501
RV505
PIN AMP
RV506
V. SIZE
RV509
BOW
RV503
H. SIZE
RV508
V. LIN
RV507
V. CENT
RV510
U.H. SIZE
RV513
H. BLK
RV512
VIDEO PHASE
RV550
V. ANG
RV504
PIN PHASE
RV511
U.V. SIZE

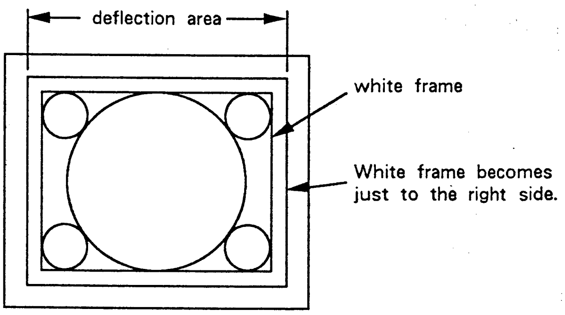
HORIZONTAL OSCILLATION FREQUENCY ADJUSTMENT (RV501)

1. Receive a monoscope signal.
2. Connect pin ① of IC501 to ground with 100 μF/16 V electrolytic capacitor.
3. Adjust RV501 so that the screen streaming stops.


f_0 : low
f_0 : suitable
f_0 : high

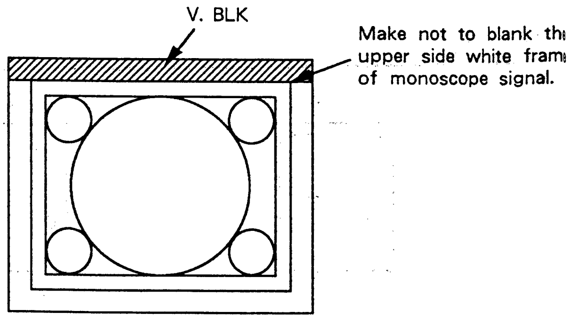
H-V BLK ADJUSTMENTS (RV510, RV512, RV513, RV514)

1. Receive a monoscope signal.
2. Set U/S (Under Scan) switch to Under mode.
3. • CONTRAST ········· Minimum
   • BRIGHTNESS ······ Maximum
4. Adjust RV510 (U. H. SIZE) so that the white frame of monoscope signal becomes visible.
5. Adjust RV512 (Video Phase) so that the white frame of monoscope signal becomes to the right side just on the screen.

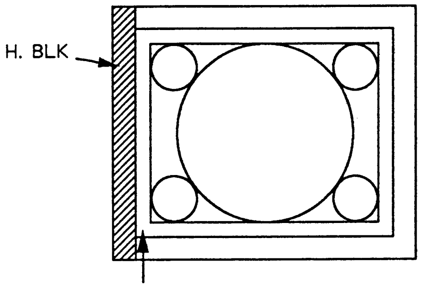

deflection area
white frame
White frame becomes just to the right side.

6. V. BLK Adjustment (RV514)

(1) Adjust RV514 (V. BLK) so that the upper side white frame of monoscope signal is not blanked.

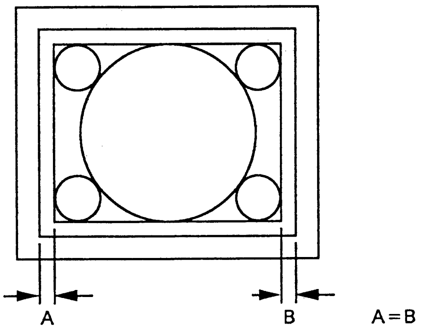

V. BLK
Make not to blank th
upper side white fram
of monoscope signal.

7. H. BLK Adjustment (RV513)
(1) Adjust with RV513 (H. BLK) so that the vertical line of the white frame of monoscope signal is blanked as following figure.



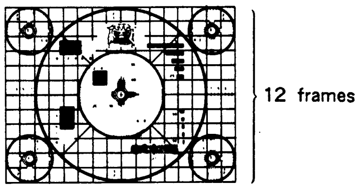
Make to blank the vertical line of the white frame of monoscope signal.

8. Screen Phase Adjustment (RV512)
(1) Adjust RV512 (Video Phase) so as to equalize the width of the white frame of monoscope signal on both sides of screen right and left.

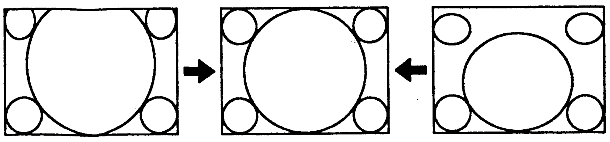


VERTICAL DEFLECTION PART ADJUSTMENTS (RV506, RV507, RV508, RV511)

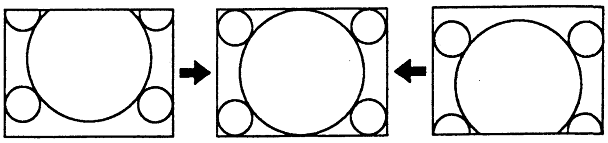
1. Receive a monoscope signal.
2. • CONTRAST ·········· 70%
   • BRIGHTNESS ······ 50%
3. Adjust RV506 (V. SIZE) so that the vertical size of monoscope signal becomes 12 frames.



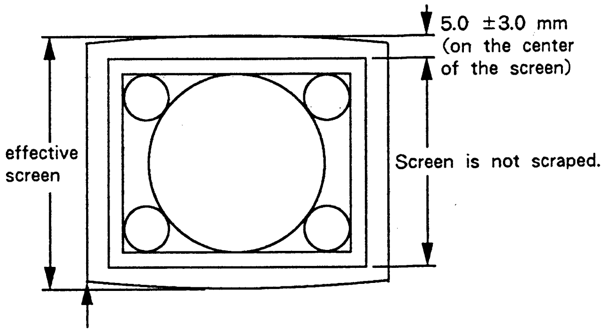
4. Adjust RV508 (V. LIN) the vertical linearity.



5. Adjust RV507 (V. CENT) the vertical position.



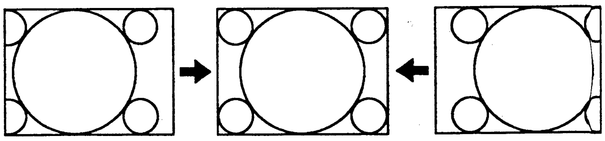
6. Adjust RV506 (V. SIZE) so that the vertical size of monoscope signal becomes 11.75 ±0.2 frames.
7. Set U/S (Under Scan) switch to Under mode.
8. Adjust with RV511 (U.V. SIZE) as follows.



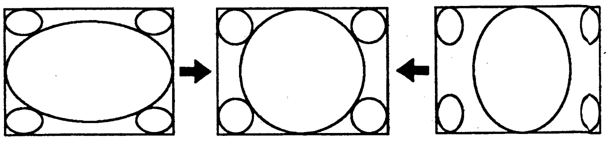
Screen is not wane on the four corners.

HORIZONTAL DEFLECTION PART ADJUSTMENTS (RV502, RV503, RV504, RV505, RV509, RV510, RV550)

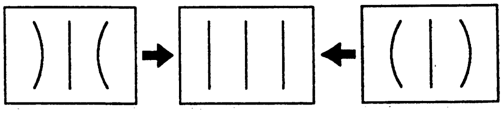
1. Receive a monoscope signal.
2. • CONTRAST ········· 70%
   • BRIGHTNESS ······ 50%
3. H. CENT Adjustment (RV502)
(1) Adjust RV502 (H. CENT) the horizontal position.



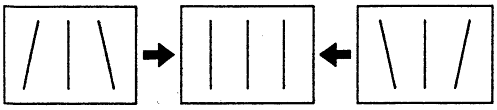
4. H. SIZE Adjustment (RV503)
(1) Adjust RV503 (H. SIZE) the horizontal size.



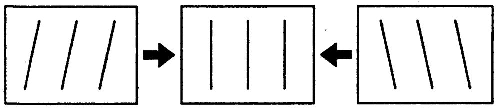
5. PIN AMP, PIN PHASE, V. ANG, BOW Adjustments (RV505, RV504, RV509, RV550)
   • PIN AMP (RV505)



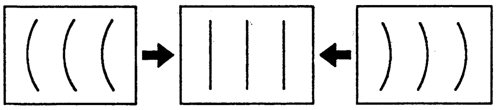
- PIN PHASE (RV504)



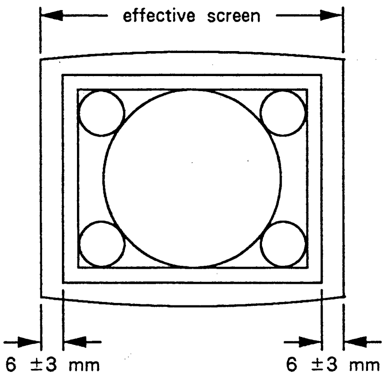
- V. ANG (RV550)



- BOW (RV509)



6. Adjust RV503 (H. SIZE) so that the horizontal size becomes 15.75 ±0.2 frames.
7. Set U/S (Under Scan) switch to Under mode.
8. Adjust RV510 (U.H. SIZE) the Under H. SIZE as follows.

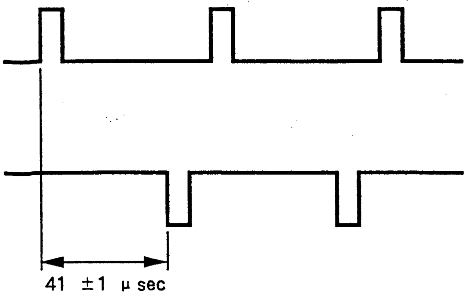


H-V DELAY ADJUSTMENT (VR1, VR2)

1. Receive a monoscope signal.
2. • CONTRAST ········ 70%
   • BRIGHTNESS ······ 50%
3. Set H-V DELAY switch to DELAY mode.
4. H. DELAY Adjustment (VR1)

(1) Connect an oscilloscope to pin ② (SYNC SEP) and pin ⑨ (H. SYNC) of IC503.

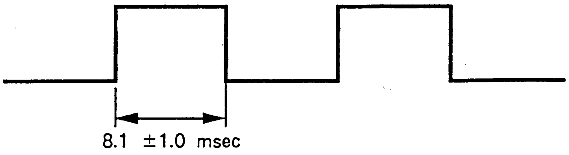
(2) Adjust VR1 of IC503 to become 41 ±1 μsec as follows.



5. V. DELAY Adjustment (VR2)

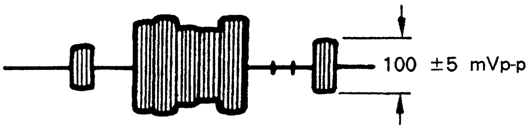
(1) Connect an oscilloscope to pin ⑥ of IC503.

(2) Adjust VR2 of IC503 to become 8.1 ±1.0 msec as follows.



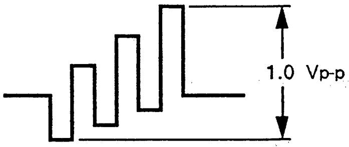
ACC ADJUSTMENT (RV002)

1. Receive a color-bar signal (EIA color-bar).
2. Connect an oscilloscope to the IC302 side lead of C313.
3. Adjust RV002 so that the burst signal level becomes 100 ±5 mVp-p.



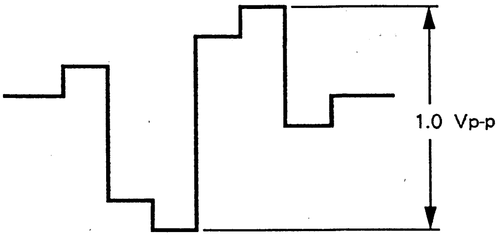
B-Y DEM LEVEL ADJUSTMENT (RV003)

1. Receive a color-bar signal (100% chroma color-bar).
2. Connect an oscilloscope to TP42 (B-Y).
3. Adjust RV003 so that the B-Y waveform becomes 1.0 Vp-p.



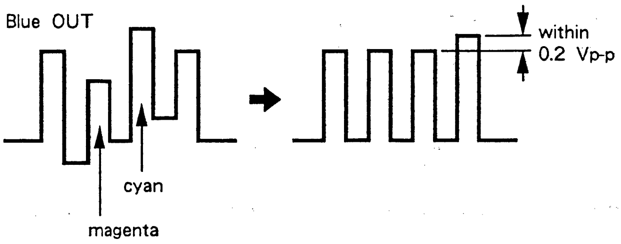
R-Y DEM LEVEL ADJUSTMENT (RV004)

1. Receive a color-bar signal (100% chroma color-bar).
2. Connect an oscilloscope to TP41 (R-Y).
3. Adjust RV004 so that the R-Y waveform becomes 1.0 Vp-p.

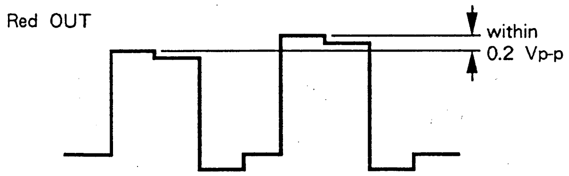


MATRIX ADJUSTMENT (RV006, RV007)

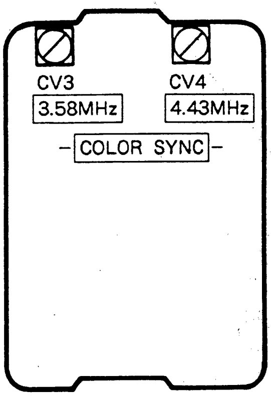
1. Receive a color-bar signal.
   white peak : 75%
   black level : 0%
   chroma max. : 75%
   chroma min. : 0%
2. CONTRAST ············ 70%
3. Connect an oscilloscope to pin ⑤ (B OUT) of A-15.
4. Adjust RV006 (B-Y) so that the BLUE OUT waveform becomes flat as following figure.



5. When there is difference between cyan portion and magenta portion, adjust with RV006 while tracking with PHASE volume for user control.
6. Connect an oscilloscope to pin ③ (R-Y) of A-15.
7. Adjust RV007 (R-Y) so that the RED OUT waveform becomes flat as following figure.



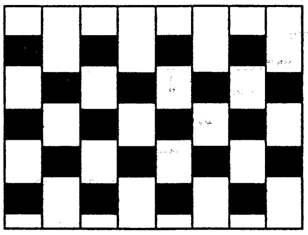
5-2. XA BOARD ADJUSTMENT



-XA BOARD
(COMPONENT SIDE) -

COLOR SYNCHRONIZATION (CW) ADJUSTMENT (CV3, CV4)

1. Short-circuit pins ⑨ and ⑩ of IC301 on A board.
2. Connect pin ③ of IC311 on A board to +12 V line via 4.7 kΩ resistor.
3. Short-circuit base and emitter of Q416 on A board.
4. 3.58 MHz Adjustment (CV3)
(1) Receive a color-bar signal (EIA color-bar).
(2) Adjust CV3 the color synchronization.



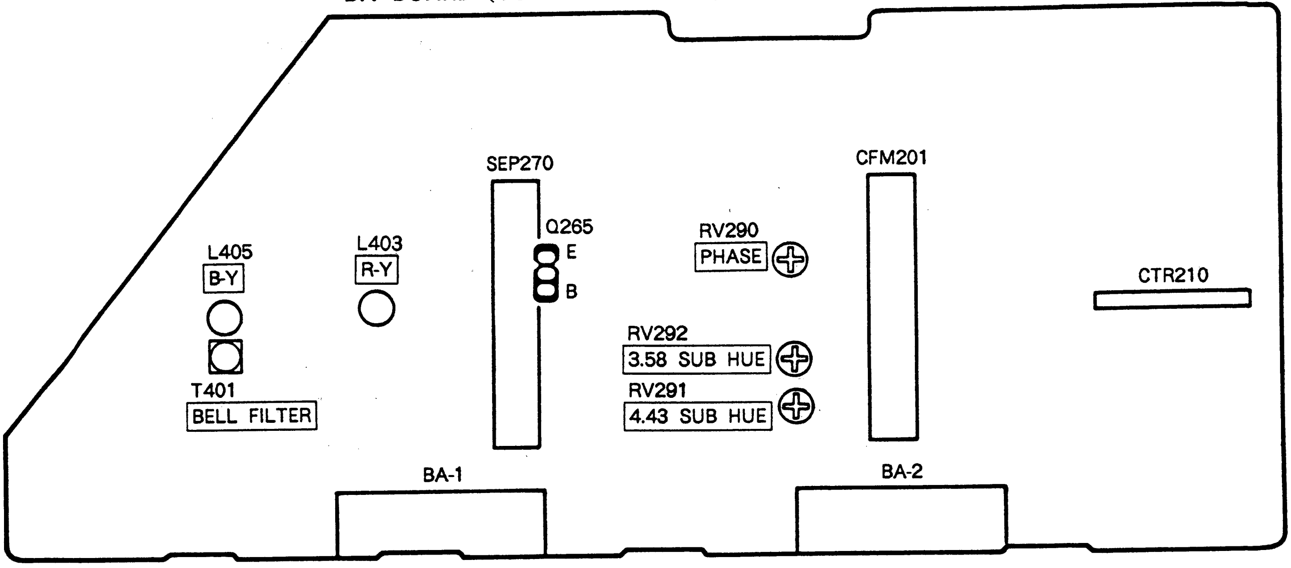
Adjust so that color stripes disappear and the hue change is stabilized extremery.

5. 4.43 MHz Adjustment (CV4)
(1) Receive a color-bar signal (EBU color-bar).
(2) Adjust CV4 the color synchronization.
6. Remove the short-circuit positions pins ⑨ and ⑩ of IC301 and base and emitter of Q416.

CAUTION : **This adjustment (XA board adjustment) should be made earlier than all adjustments of color.**

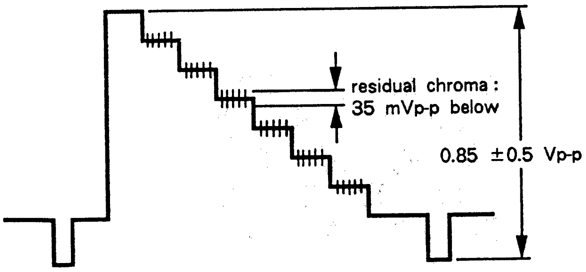
5-3. BA BOARD ADJUSTMENTS

-BA BOARD (COMPONENT SIDE) -

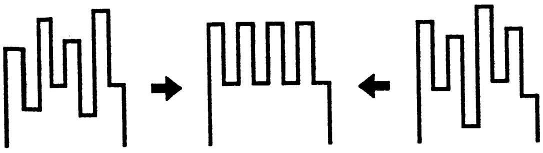

SEP270
CFM201
Q265
E
B
RV290
PHASE
L405
B-Y
L403
R-Y
CTR210
RV292
3.58 SUB HUE
T401
BELL FILTER
RV291
4.43 SUB HUE
BA-1
BA-2

NTSC 3.58 MHz ADJUSTMENT (RV292)

1. Receive NTSC 3.58 color-bar signal.
2. Connect an oscilloscope to pin ⑮ (COMPOSITE IN) of BA-2 connector.
3. Confirm the Y-OUT is 0.87 ±0.5 Vp-p.
4. Confirm the residual chroma is 35 mVp-p below. When it is above 35 mVp-p, adjust with RV1 and T1 inside CFM201 while tracking.


residual chroma :
35 mVp-p below
0.85 ±0.5 Vp-p

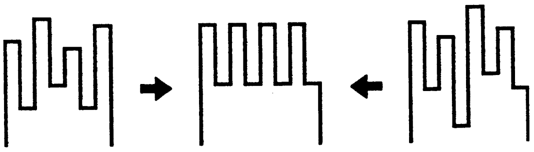
5. Connect an oscilloscope to pin ⑤ (B-OUT) of A-15 connector.
6. Adjust RV292 (3.58 SUB HUE) so that the BLUE OUT waveform level becomes flat as following figure.



Note : CONTRAST······normal condition
HUE······Normal condition

NTSC 4.43 MHz ADJUSTMENT (RV291)

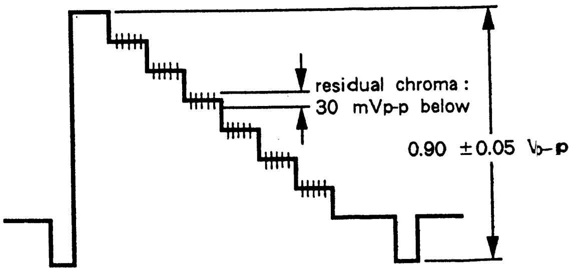
1. Receive NTSC 4.43 color-bar signal.
2. Confirm the voltage on pin ④ of CTR210 is above 5.0 V DC, and on pin ⑤ of CTR210 is below 0.1 V DC.
3. Connect an oscilloscope to pin ⑤ of A-15 connector.
4. Adjust RV291 (4.43 SUB HUE) so that the BLUE OUT waveform level becomes flat as following figure.



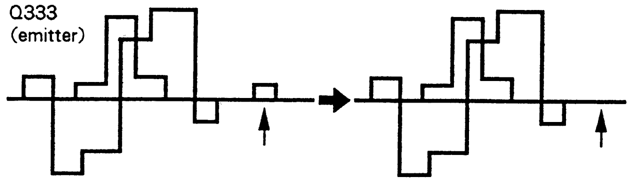
Note : CONTRAST······Normal condition
HUE······Normal condition

PAL ADJUSTMENTS (RV290)

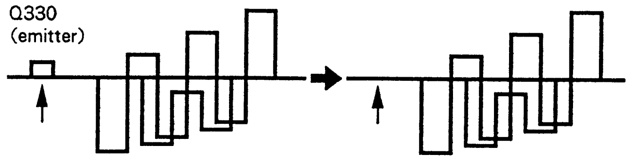
1. Receive NTSC 4.43 color-bar signal.
2. Confirm the voltage on pin ④ of CTR210 is above 5.0 V DC, and on pin ⑤ of CTR210 is below 1.0 V DC.
3. Connect an oscilloscope to pin ⑪ of BA-2 connector.
4. Confirm the Y-OUT is 0.90 ±0.05 Vp-p and the residual chroma is below 30 mVp-p.


residual chroma :
30 mVp-p below
0.90 ±0.05 Vp-p

5. ANTI-PAL Adjustment (RV290)
(1) Receive the special PAL color-bar.
(2) Connect an oscilloscope to emitter of Q333 on A board, and adjust RV290 (PHASE) so that R-Y anti-PAL portion becomes flat as following figure.

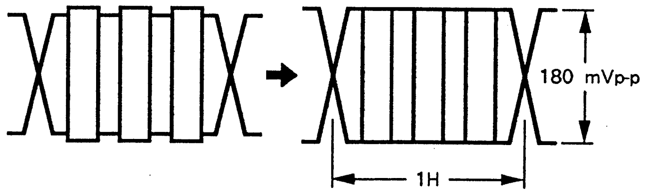


(3) Connect an oscilloscope to emitter of Q330 on A board, and adjust RV2 inside SEP270 so that B-Y anti-PAL portion becomes flat as following figure.

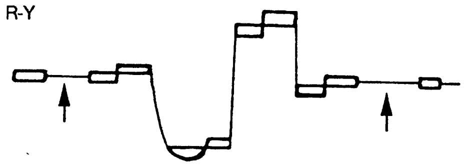


SECAM ADJUSTMENTS (T401, L403, L405)

1. Receive SECAM color-bar.
2. Bell Filter Adjustment (T401)
(1) Connect an oscilloscope to emitter of Q265.
(2) Adjust T401 (Bell Filter) so that the chroma waveform becomes smooth.

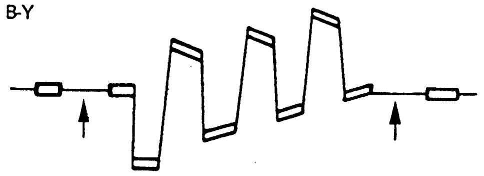


3. Color Balance Adjustment (L403)
(1) Connect an oscilloscope to pin ⑦ (R-Y) of BA-1 connector.
(2) Adjust L403 (R-Y) so that the non-colored portion level becomes flat.



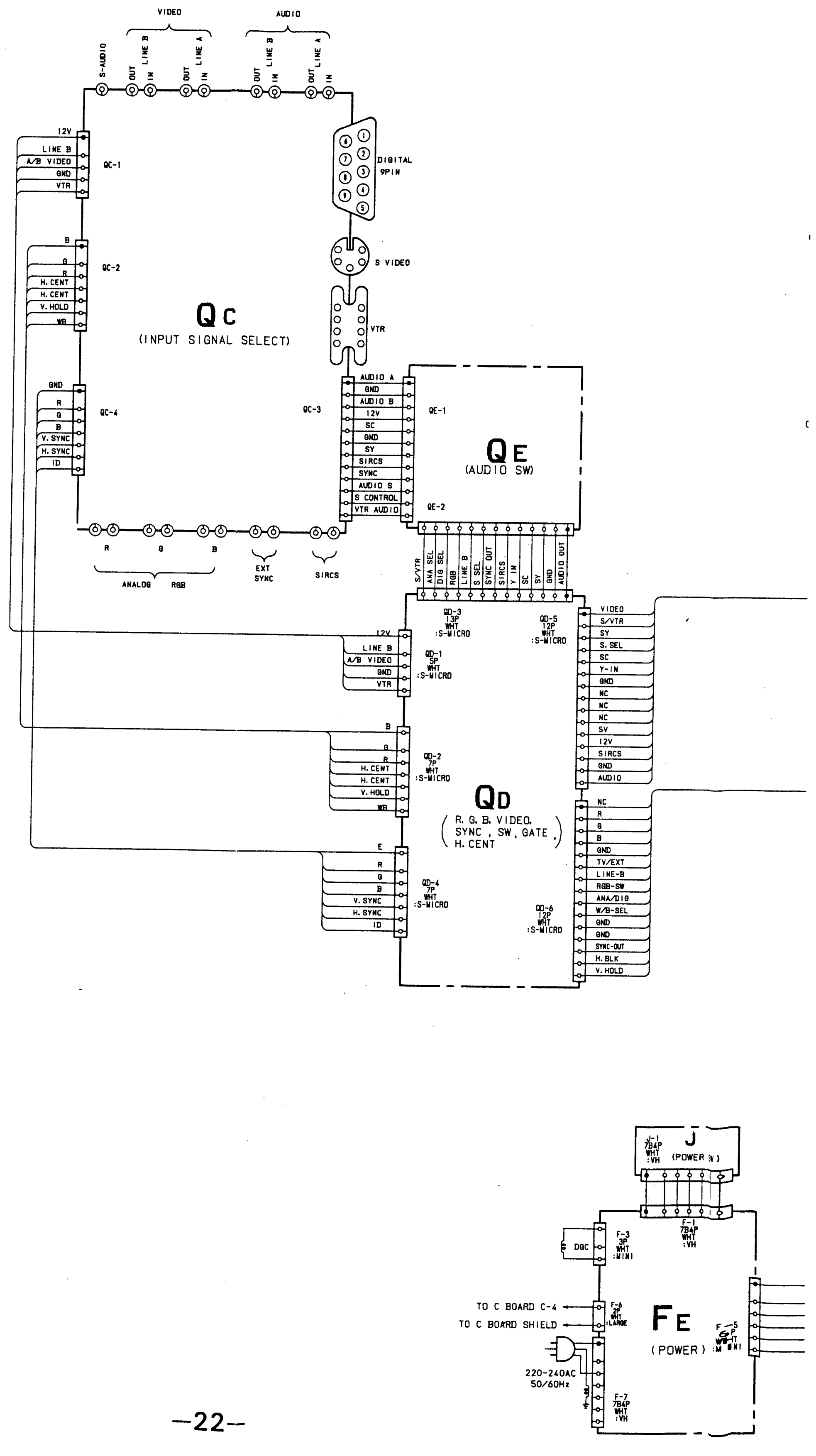
(3) Connect an oscilloscope to pin ⑧ (B-Y) of BA-1 connector.

(4) Adjust L405 (B-Y) so that the non-colored portion level becomes flat.



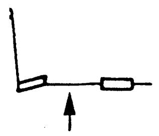
SECTION 6
DIAGRAMS

6-1. FRAME SCHEMATIC DIAGRAM

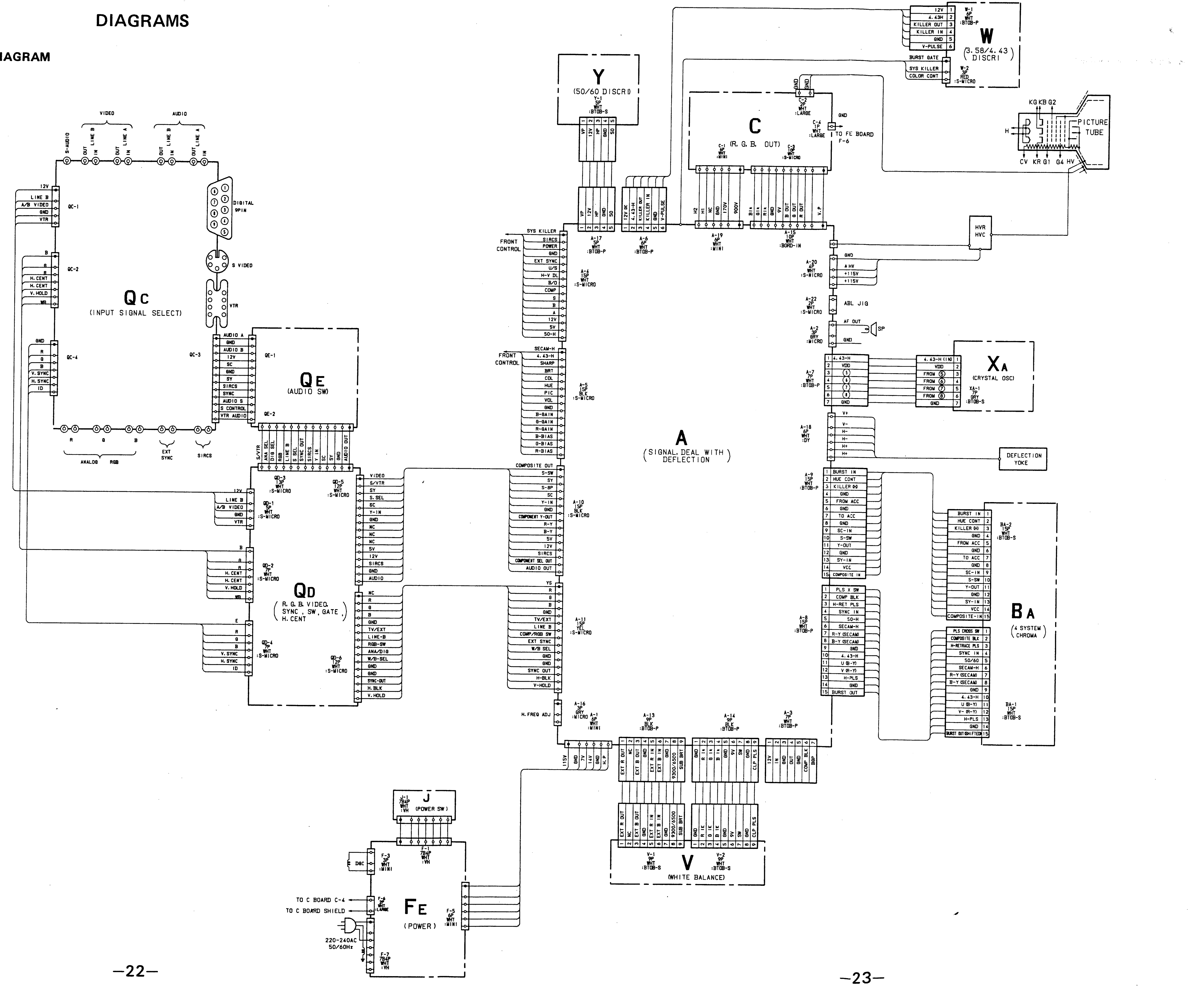

VIDEO
AUDIO
S-AUDIO
DIGITAL 9PIN
S VIDEO
VTR
QC
(INPUT SIGNAL SELECT)
ANALOG RGB
EXT SYNC
SIRCS
QE
(AUDIO SW)
QD
(R. G. B. VIDEO, SYNC, SW, GATE, H. CENT)
J
(POWER SW)
FE
(POWER)
TO C BOARD C-4
TO C BOARD SHIELD
220-240AC 50/60Hz

SECTION 6
DIAGRAMS

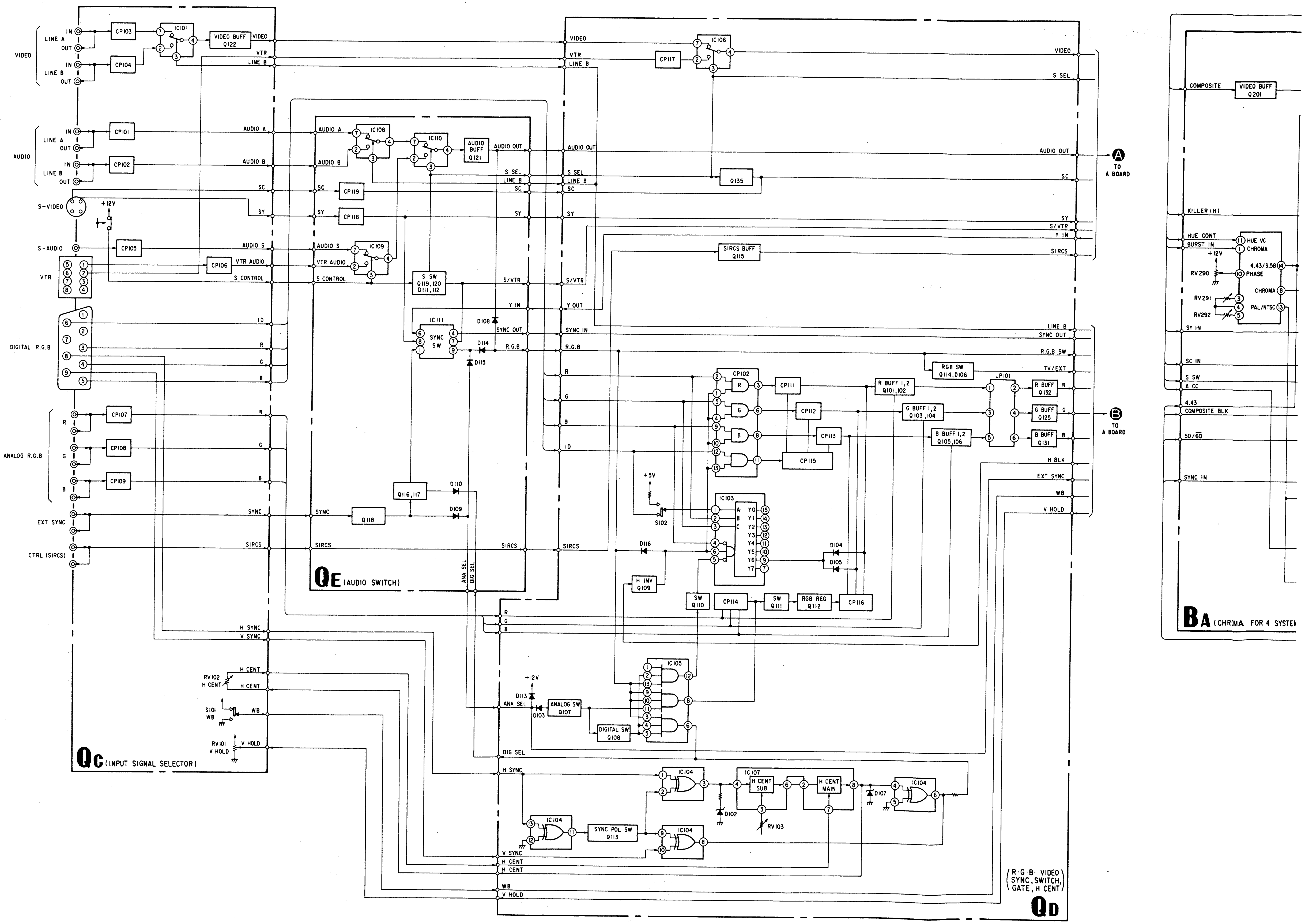
on-colored portion

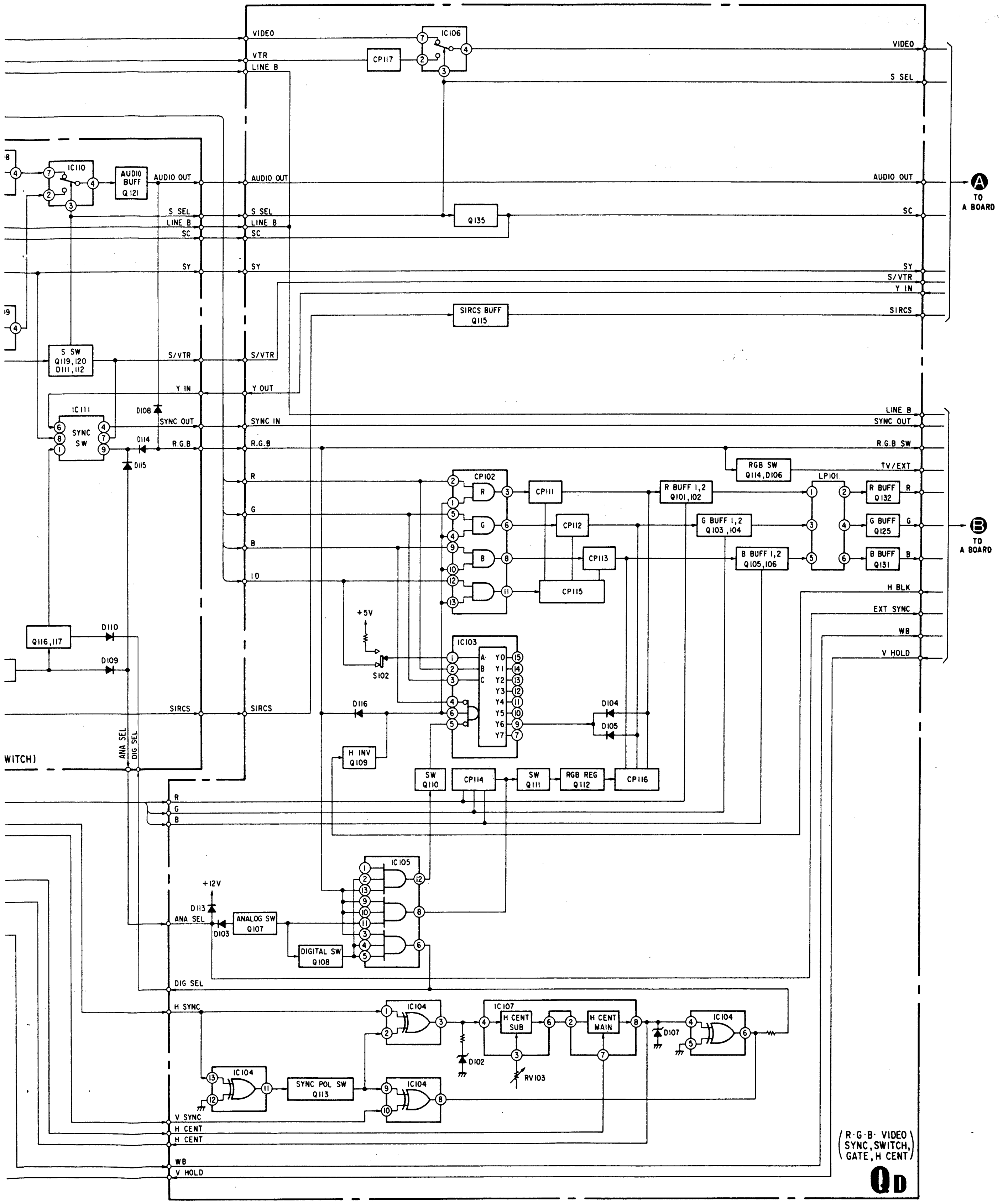


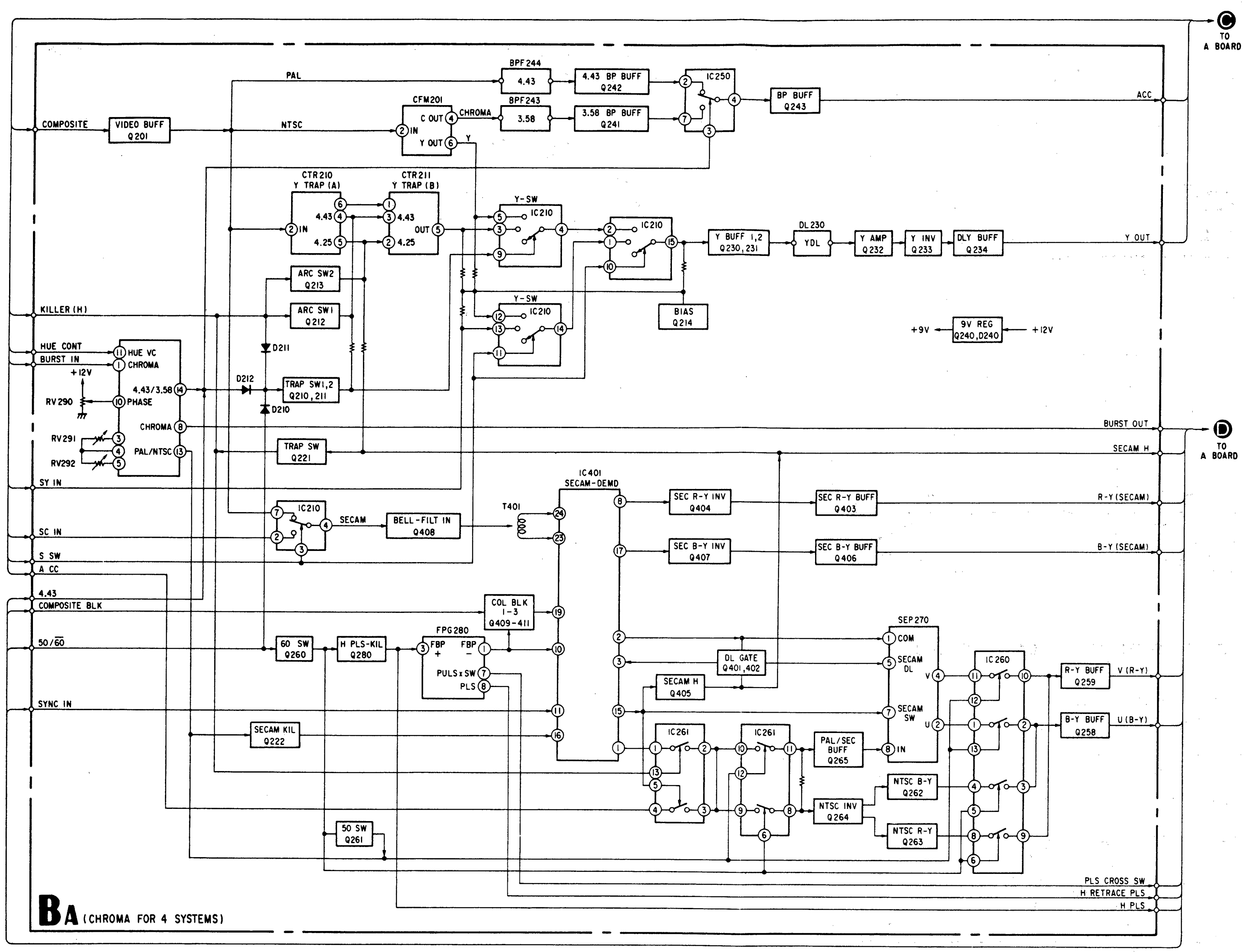
6-1. FRAME SCHEMATIC DIAGRAM

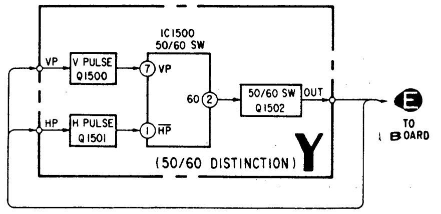

QC
(INPUT SIGNAL SELECT)
VIDEO
AUDIO
S-AUDIO
LINE B
LINE A
OUT
IN
DIGITAL 9PIN
S VIDEO
VTR
QC-1
QC-2
QC-3
QC-4
12V
LINE B
A/B VIDEO
GND
VTR
B
H. CENT
V. HOLD
WB
R
G
V. SYNC
H. SYNC
ID
ANALOG RGB
EXT SYNC
SIRCS
QE
(AUDIO SW)
QE-1
QE-2
AUDIO A
AUDIO B
SC
SY
SYNC
AUDIO S
S CONTROL
VTR AUDIO
QD
(R. G. B. VIDEO, SYNC, SW, GATE, H. CENT)
QD-1
QD-2
QD-3
QD-4
QD-5
QD-6
S/VTR
S. SEL
Y-IN
NC
5V
TV/EXT
LINE-B
RGB-SW
ANA/DIG
W/B-SEL
SYNC-OUT
H. BLK
V. HOLD
:S-MICRO
Y
(50/60 DISCRI)
Y-1 5P WHT :BTOB-S
VP
HP
50
W
(3.58/4.43 DISCRI)
W-1 6P WHT :BTOB-P
W-2 3P RED :S-MICRO
4.43H
KILLER OUT
KILLER IN
V-PULSE
BURST GATE
SYS KILLER
COLOR CONT
C
(R. G. B. OUT)
C-1 6P WHT :MINI
C-2 2P WHT :LARGE
C-3 10P WHT :S-MICRO
C-4 1P WHT :LARGE
TO FE BOARD F-6
GND
PICTURE TUBE
KG KB G2
H
CV KR G1 G4 HV
HVR HVC
A
(SIGNAL, DEAL WITH DEFLECTION)
A-1 6P WHT :MINI
A-2 3P GRY :MICRO
A-3 7P WHT :BTOB-P
A-4 15P WHT :S-MICRO
A-5 15P BLK :S-MICRO
A-6 6P WHT :BTOB-P
A-7 7P WHT :BTOB-P
A-8 15P WHT :BTOB-P
A-9 15P WHT :BTOB-P
A-10 15P BLK :S-MICRO
A-11 15P YEL :S-MICRO
A-13 9P BLK :BTOB-P
A-14 9P BLK :BTOB-P
A-15 10P WHT :BORD-IN
A-16 3P GRY :MICRO
A-17 5P WHT :BTOB-P
A-18 6P WHT :DY
A-19 6P WHT :MINI
A-20 4P WHT :S-MICRO
A-22 2P WHT :S-MICRO
FRONT CONTROL
SIRCS
POWER
EXT SYNC
U/S
H-V DL
B/D
COMP
5V
50-H
SECAM-H
4.43-H
SHARP
BRT
COL
HUE
PIC
VOL
B-GAIN
G-GAIN
R-GAIN
B-BIAS
G-BIAS
R-BIAS
COMPOSITE OUT
S-SW
S-BP
COMPONENT Y-OUT
R-Y
B-Y
COMPONENT SEL OUT
AUDIO OUT
YS
COMP/RGB SW
W/B SEL
SYNC OUT
H-BLK
V-HOLD
H. FREQ ADJ
A HV
+115V
ABL JIG
AF OUT
SP
V+
V-
H-
H+
DEFLECTION YOKE
XA
(CRYSTAL OSC)
XA-1 7P GRY :BTOB-S
VDD
FROM ⑤
FROM ⑥
FROM ⑦
FROM ⑧
BA
(4 SYSTEM CHROMA)
BA-1 15P WHT :BTOB-S
BA-2 15P WHT :BTOB-S
BURST IN
HUE CONT
KILLER 00
FROM ACC
TO ACC
SC-IN
S-SW
Y-OUT
SY-IN
VCC
COMPOSITE-IN
PLS CROSS SW
COMPOSITE BLK
H-RETRACE PLS
SYNC IN
50/60
R-Y (SECAM)
B-Y (SECAM)
U (B-Y)
V (R-Y)
H-PLS
BURST OUT (SHIFTED)
V
(WHITE BALANCE)
V-1 9P WHT :BTOB-S
V-2 9P WHT :BTOB-S
EXT R OUT
EXT B OUT
EXT R IN
EXT B IN
9300/6500
SUB BRT
R IK
G IK
B IK
9V
SW
CLP PLS
115V
7V
14V
H.P
J
(POWER SW)
J-1 7B4P WHT :VH
FE
(POWER)
F-1 7B4P WHT :VH
F-3 3P WHT :MINI
F-4 1P WHT :LARGE
F-5 6P WHT :MINI
F-7 7B4P WHT :VH
DGC
TO C BOARD C-4
TO C BOARD SHIELD
220-240AC 50/60Hz

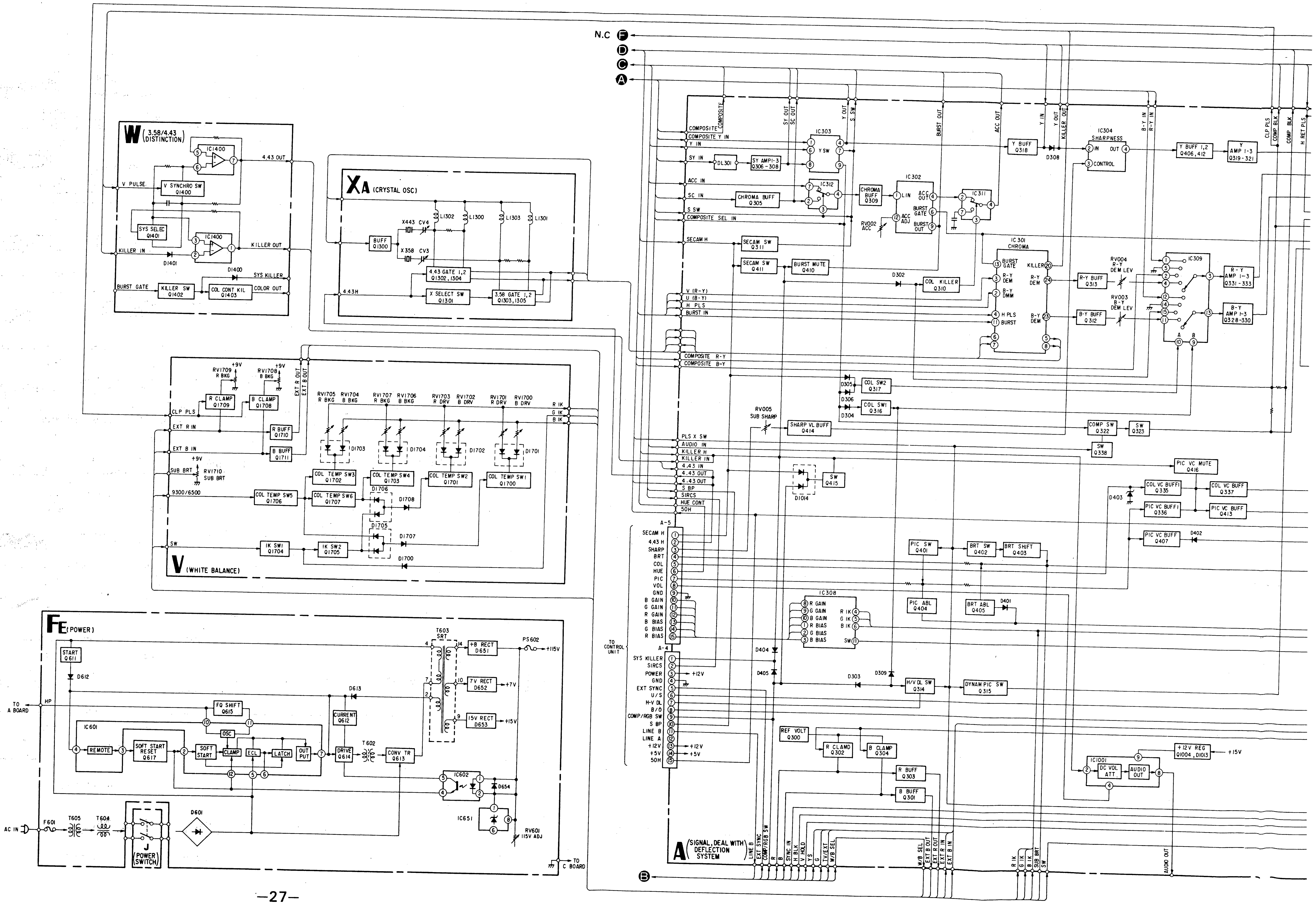
6-2. BLOCK DIAGRAMS

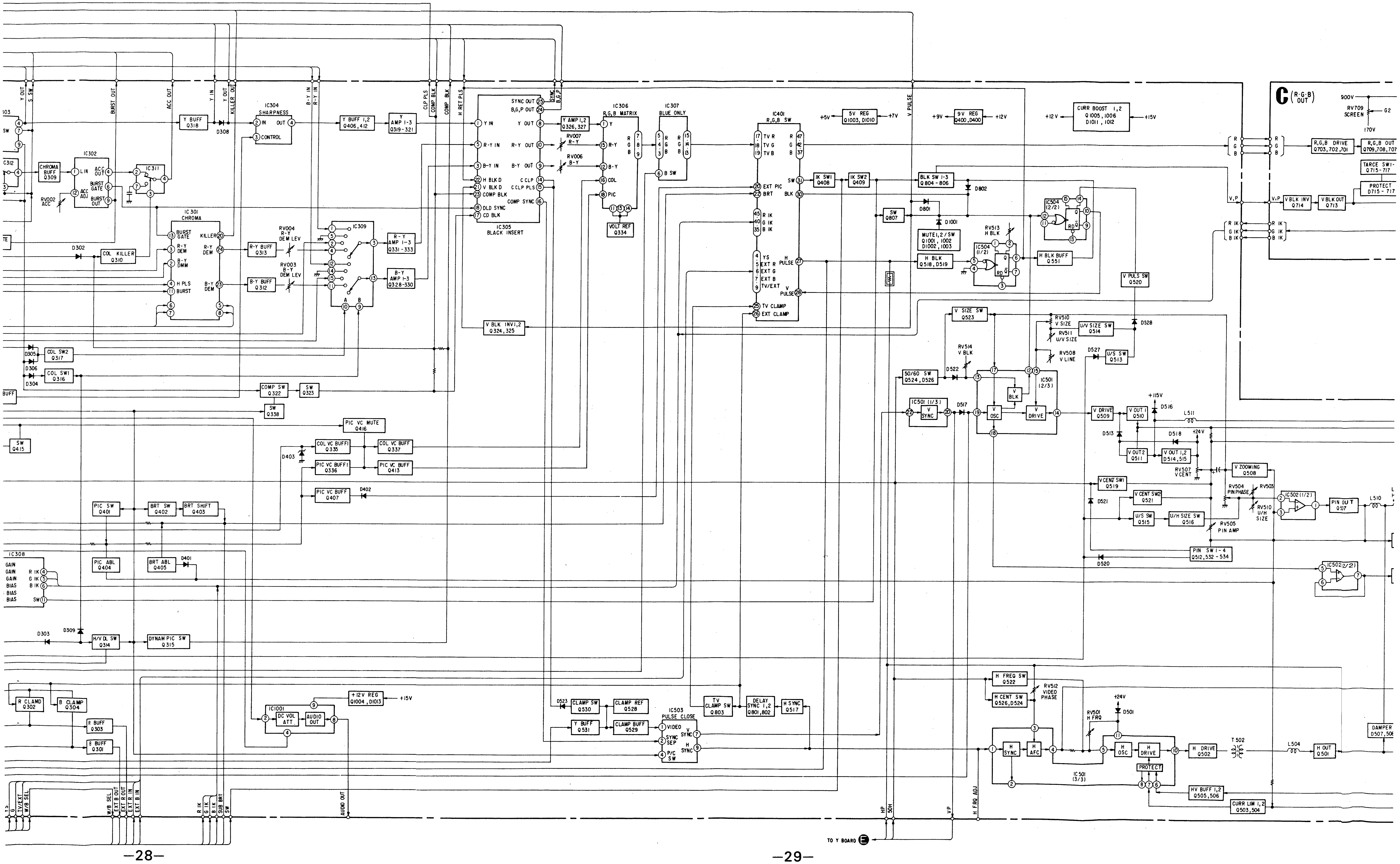

QC (INPUT SIGNAL SELECTOR)
QE (AUDIO SWITCH)
QD
(R·G·B· VIDEO SYNC, SWITCH, GATE, H CENT)
BA (CHRIMA FOR 4 SYSTE
VIDEO
LINE A
LINE B
IN
OUT
AUDIO
S-VIDEO
S-AUDIO
VTR
DIGITAL R.G.B
ANALOG R.G.B
EXT SYNC
CTRL (SIRCS)
CP103
CP104
CP101
CP102
CP105
CP106
CP107
CP108
CP109
CP117
CP118
CP119
IC101
IC106
IC108
IC109
IC110
IC111
IC103
IC105
IC104
IC107
VIDEO BUFF Q122
AUDIO BUFF Q121
S SW Q119,120 D111,112
SYNC SW
Q116,117
Q118
Q135
SIRCS BUFF Q115
RGB SW Q114,D106
R BUFF 1,2 Q101,102
G BUFF 1,2 Q103,104
B BUFF 1,2 Q105,106
R BUFF Q132
G BUFF Q125
B BUFF Q131
LP101
CP102
CP111
CP112
CP113
CP114
CP115
CP116
H INV Q109
SW Q110
SW Q111
RGB REG Q112
ANALOG SW Q107
DIGITAL SW Q108
SYNC POL SW Q113
H CENT SUB
H CENT MAIN
RV102 H CENT
RV101 V HOLD
RV103
S101 WB
S102
+12V
+5V
AUDIO OUT
S SEL
LINE B
SC
SY
S/VTR
Y IN
Y OUT
SYNC IN
SYNC OUT
R.G.B
R.G.B SW
TV/EXT
ID
H BLK
EXT SYNC
WB
V HOLD
H SYNC
V SYNC
H CENT
ANA SEL
DIG SEL
SIRCS
TO A BOARD
TO B BOARD
A
B
COMPOSITE
VIDEO BUFF Q201
KILLER (H)
HUE CONT
BURST IN
HUE VC
CHROMA
PHASE
PAL/NTSC
RV290
RV291
RV292
SY IN
SC IN
S SW
A CC
4.43
COMPOSITE BLK
50/60
SYNC IN

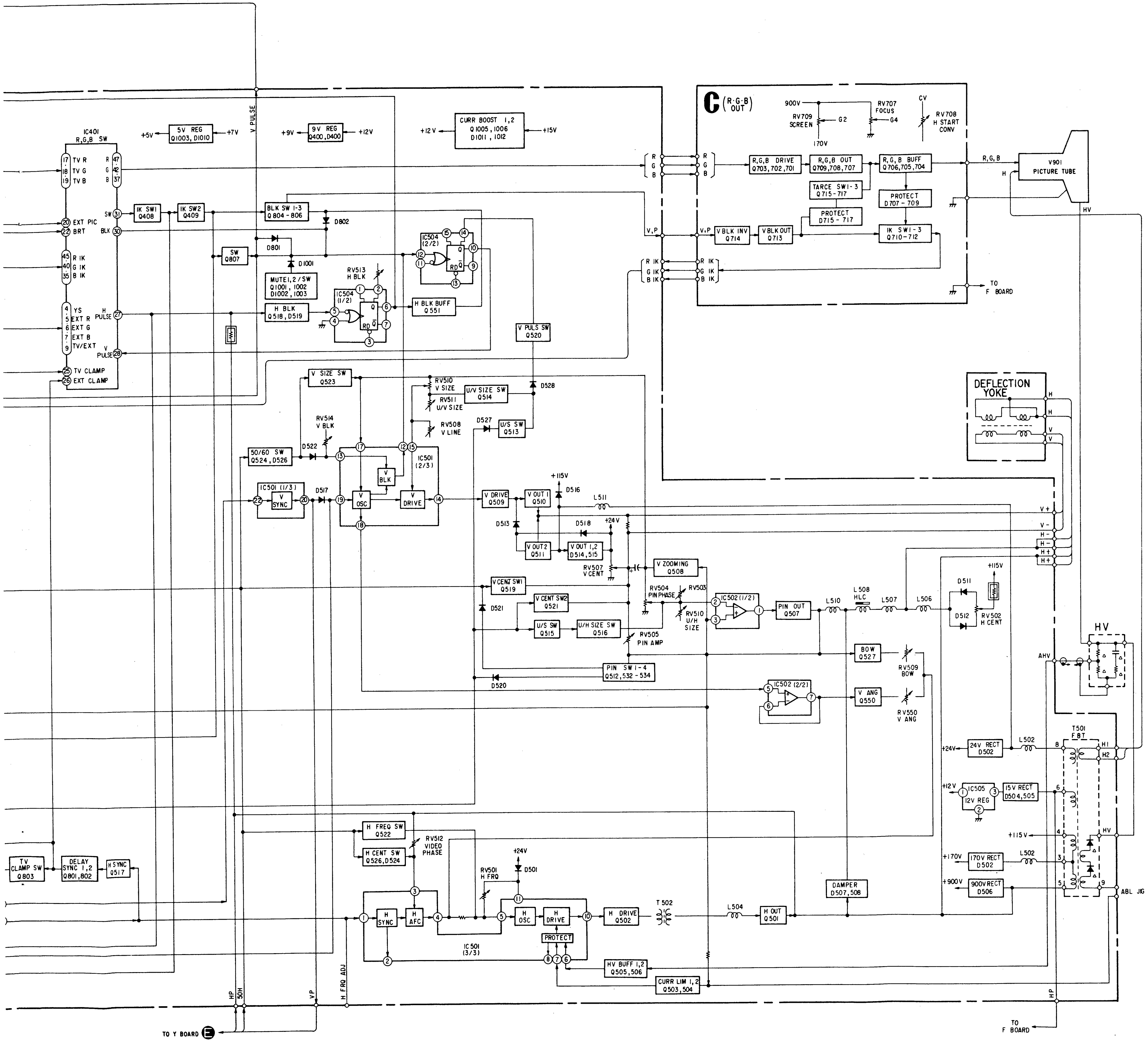

VIDEO
VTR
LINE B
CP117
IC106
S SEL
IC110
AUDIO BUFF Q121
AUDIO OUT
TO A BOARD
LINE B
SC
Q135
SY
S/VTR
Y IN
SIRCS BUFF Q115
SIRCS
S SW Q119,120 D111,112
Y OUT
IC111 SYNC SW
D108
SYNC OUT
SYNC IN
D114
D115
R.G.B
R.G.B SW
RGB SW Q114,D106
TV/EXT
CP102
CP111
R BUFF 1,2 Q101,102
LP101
R BUFF Q132
CP112
G BUFF 1,2 Q103,104
G BUFF Q125
CP113
B BUFF 1,2 Q105,106
B BUFF Q131
CP115
ID
H BLK
EXT SYNC
+5V
WB
V HOLD
Q116,117
D110
D109
IC103
S102
D116
D104
D105
H INV Q109
SW Q110
CP114
SW Q111
RGB REG Q112
CP116
ANA SEL
DIG SEL
WITCH)
IC105
+12V
D113
D103
ANALOG SW Q107
DIGITAL SW Q108
H SYNC
IC104
IC107
H CENT SUB
H CENT MAIN
D102
RV103
D107
SYNC POL SW Q113
V SYNC
H CENT
(R·G·B· VIDEO SYNC, SWITCH, GATE, H CENT)
QD


TO A BOARD
PAL
BPF244 4.43
4.43 BP BUFF Q242
IC250
BP BUFF Q243
ACC
CFM201
C OUT
CHROMA
BPF243 3.58
3.58 BP BUFF Q241
COMPOSITE
VIDEO BUFF Q201
NTSC
Y OUT
CTR210 Y TRAP (A)
CTR211 Y TRAP (B)
Y-SW IC210
DL230 YDL
Y BUFF 1,2 Q230,231
Y AMP Q232
Y INV Q233
DLY BUFF Q234
ARC SW2 Q213
ARC SW1 Q212
BIAS Q214
KILLER (H)
+9V
9V REG Q240,D240
+12V
HUE CONT
BURST IN
HUE VC
PHASE
RV290
RV291
RV292
PAL/NTSC
D211
D212
D210
TRAP SW1,2 Q210,211
TRAP SW Q221
BURST OUT
SECAM H
SY IN
SC IN
S SW
A CC
4.43
COMPOSITE BLK
50/60
SYNC IN
SECAM
BELL-FILT IN Q408
T401
IC401 SECAM-DEMD
SEC R-Y INV Q404
SEC R-Y BUFF Q403
R-Y (SECAM)
SEC B-Y INV Q407
SEC B-Y BUFF Q406
B-Y (SECAM)
COL BLK 1-3 Q409-411
FPG280
60 SW Q260
H PLS-KIL Q280
DL GATE Q401,402
SECAM H Q405
SEP270
COM
SECAM DL
SECAM SW
IC260
R-Y BUFF Q259
V (R-Y)
B-Y BUFF Q258
U (B-Y)
SECAM KIL Q222
IC261
PAL/SEC BUFF Q265
NTSC B-Y Q262
NTSC INV Q264
NTSC R-Y Q263
50 SW Q261
PLS CROSS SW
H RETRACE PLS
H PLS
BA (CHROMA FOR 4 SYSTEMS)


IC1500 50/60 SW
VP
V PULSE Q1500
HP
H PULSE Q1501
60
50/60 SW Q1502
OUT
TO B BOARD
(50/60 DISTINCTION)
Y


W (3.58/4.43 DISTINCTION)
IC1400
V SYNCHRO SW Q1400
SYS SELEC Q1401
KILLER SW Q1402
COL CONT KIL Q1403
V PULSE
KILLER IN
BURST GATE
4.43 OUT
KILLER OUT
SYS KILLER
COLOR OUT
D1400
D1401
XA (CRYSTAL OSC)
BUFF Q1300
X443 CV4
X358 CV3
L1302 L1300 L1303 L1301
4.43 GATE 1,2 Q1302,1304
X SELECT SW Q1301
3.58 GATE 1,2 Q1303,1305
4.43H
V (WHITE BALANCE)
R CLAMP Q1709
B CLAMP Q1708
R BUFF Q1710
B BUFF Q1711
RV1709 R BKG
RV1708 B BKG
CLP PLS
EXT R IN
EXT B IN
SUB BRT
RV1710 SUB BRT
9300/6500
SW
EXT R OUT
EXT B OUT
RV1705 R BKG RV1704 B BKG RV1707 R BKG RV1706 B BKG RV1703 R DRV RV1702 B DRV RV1701 R DRV RV1700 B DRV
D1703 D1704 D1702 D1701
COL TEMP SW3 Q1702
COL TEMP SW4 Q1703
COL TEMP SW2 Q1701
COL TEMP SW1 Q1700
COL TEMP SW5 Q1706
COL TEMP SW6 Q1707
D1706 D1708 D1705 D1707 D1700
IK SW1 Q1704
IK SW2 Q1705
R IK
G IK
B IK
FE (POWER)
START Q611
D612
D613
FQ SHIFT Q615
IC601
REMOTE
SOFT START RESET Q617
SOFT START
CLAMP
OSC
ECL
LATCH
OUT PUT
CURRENT Q612
DRIVE Q614
T602
CONV TR Q613
T603 SRT
+B RECT D651
7V RECT D652
15V RECT D653
PS602
+115V
+7V
+15V
IC602
D654
IC651
RV601 115V ADJ
TO A BOARD
HP
AC IN
F601
T605
T604
J (POWER SWITCH)
D601
TO C BOARD
N.C F
D
C
A
B
COMPOSITE
COMPOSITE Y IN
Y IN
SY IN
DL301
SY AMP1-3 Q306-308
IC303
Y SW
SY OUT
SC OUT
Y OUT
S SW
ACC IN
SC IN
CHROMA BUFF Q305
IC312
S SW
COMPOSITE SEL IN
CHROMA BUFF Q309
IC302
ACC OUT
ACC ADJ
BURST GATE
BURST OUT
RV002 ACC
IC311
BURST OUT
ACC OUT
Y BUFF Q318
D308
Y IN
Y OUT
KILLER OUT
IC304 SHARPNESS
IN OUT CONTROL
Y BUFF 1,2 Q406,412
Y AMP 1-3 Q319-321
B-Y IN
R-Y IN
CLP PLS
COMP BLK
COMP BLK
H RET PLS
SECAM H
SECAM SW Q311
SECAM SW Q411
BURST MUTE Q410
D302
COL KILLER Q310
IC301 CHROMA
BURST GATE
KILLER
R-Y DEM
B-Y DMM
H PLS
BURST
R-Y BUFF Q313
B-Y BUFF Q312
RV004 R-Y DEM LEV
RV003 B-Y DEM LEV
IC309
R-Y AMP 1-3 Q331-333
B-Y AMP 1-3 Q328-330
V (R-Y)
U (B-Y)
H PLS
BURST IN
COMPOSITE R-Y
COMPOSITE B-Y
D305 COL SW2 Q317
D306 COL SW1 Q316
D304
RV005 SUB SHARP
SHARP VL BUFF Q414
COMP SW Q322
SW Q323
SW Q338
PLS X SW
AUDIO IN
KILLER H
KILLER IN
4.43 IN
4.43 OUT
4.43 OUT
S BP
SIRCS
HUE CONT
50H
SW Q415
D1014
PIC VC MUTE Q416
COL VC BUFF Q335
COL VC BUFF Q337
PIC VC BUFF Q336
PIC VC BUFF Q413
D403
PIC VC BUFF Q407
D402
A-5
SECAM H
4.43 H
SHARP
BRT
COL
HUE
PIC
VOL
GND
B GAIN
G GAIN
R GAIN
B BIAS
G BIAS
R BIAS
TO CONTROL UNIT
A-4
SYS KILLER
SIRCS
POWER
GND
EXT SYNC
U/S
H-V DL
B/O
COMP/RGB SW
S BP
LINE B
LINE A
+12V
+5V
50H
PIC SW Q401
BRT SW Q402
BRT SHIFT Q403
IC308
R GAIN G GAIN B GAIN R BIAS G BIAS B BIAS
R IK G IK B IK SW
PIC ABL Q404
BRT ABL Q405
D401
D404
D405
D303
D309
H/V DL SW Q314
DYNAM PIC SW Q315
REF VOLT Q300
R CLAMP Q302
B CLAMP Q304
R BUFF Q303
B BUFF Q301
IC1001
DC VOL ATT.
AUDIO OUT
+12V REG Q1004, D1013
+15V
A (SIGNAL, DEAL WITH DEFLECTION SYSTEM)
LINE B
EXT SYNC
COMP/RGB SW
R
B
SYNC IN
H BLK
V HOLD
Y S
TV/EXT
W/B SEL
W/B SEL
EXT B OUT
EXT R OUT
EXT R IN
EXT B IN
R IK
G IK
B IK
SUB BRT
SW
AUDIO OUT

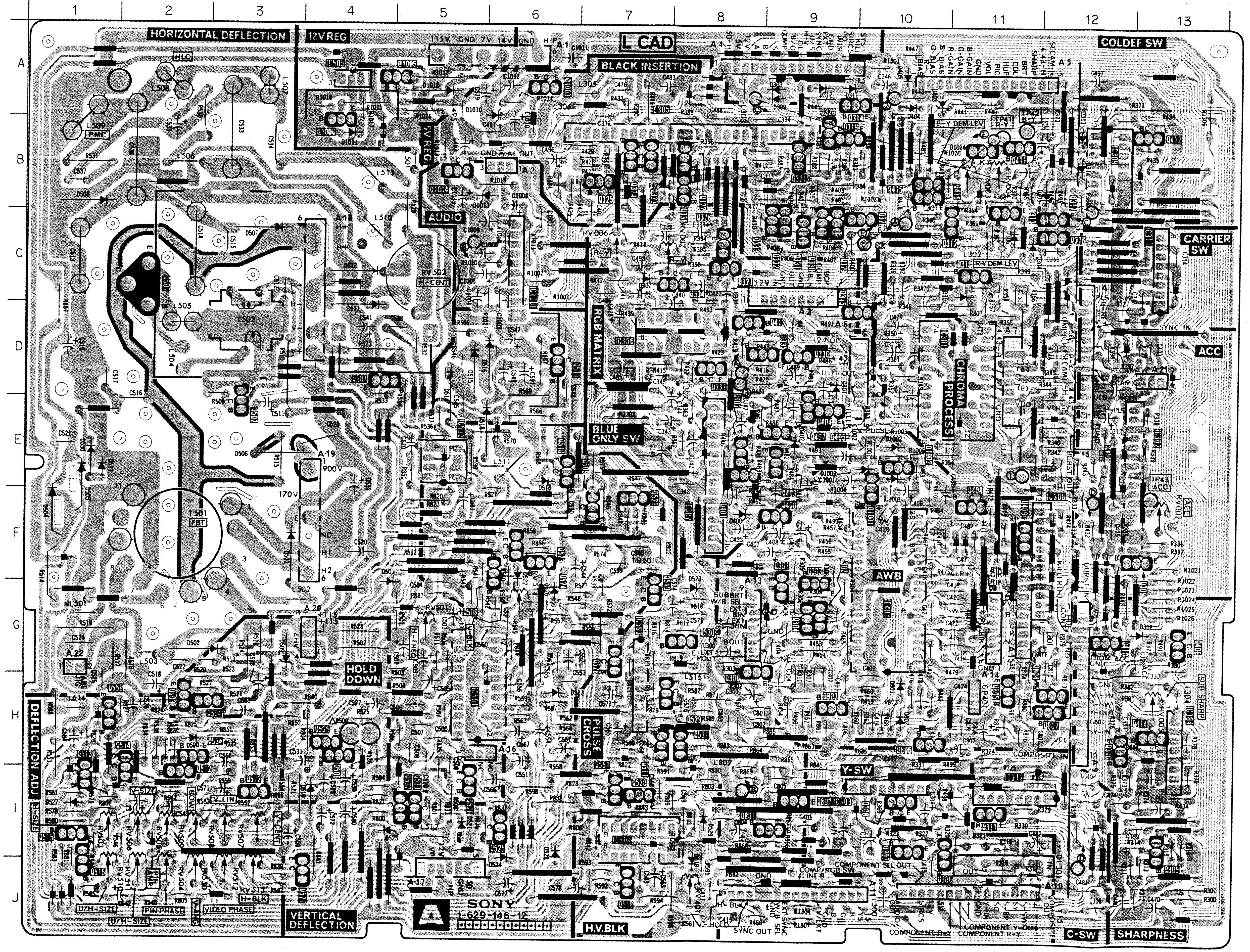

Y OUT
S SW
BURST OUT
ACC OUT
Y IN
Y OUT
KILLER OUT
B-Y IN
R-Y IN
CLP PLS
COMP BLK
COMP BLK
H RET PLS
SYNC B,G,P
V PULSE
Y BUFF Q318
D308
IC304 SHARPNESS
IN OUT
CONTROL
Y BUFF 1,2 Q406,412
Y AMP 1-3 Q319-321
CHROMA BUFF Q309
IC302
ACC OUT
ACC ADJ
BURST GATE
BURST OUT
RV002 ACC
IC311
IC301 CHROMA
BURST GATE
KILLER
R-Y DEM
B-Y DEM
H PLS
BURST
R-Y BUFF Q313
B-Y BUFF Q312
RV004 R-Y DEM LEV
RV003 B-Y DEM LEV
IC309
R-Y AMP 1-3 Q331-333
B-Y AMP 1-3 Q328-330
D302
COL KILLER Q310
IC305 BLACK INSERT
Y IN
R-Y IN
B-Y IN
H BLK D
V BLK D
COMP BLK
OLD SYNC
CD BLK
SYNC OUT
B,G,P OUT
Y OUT
R-Y OUT
B-Y OUT
CCLP
CCLP PLS
COMP SYNC
Y AMP 1,2 Q326,327
RV007 R-Y
RV006 B-Y
IC306 R,G,B MATRIX
VOLT REF Q334
IC307 BLUE ONLY
B SW
IC401 R,G,B SW
TV R
TV G
TV B
EXT PIC
BRT
R IK
G IK
B IK
YS
EXT R
EXT G
EXT B
TV/EXT
TV CLAMP
EXT CLAMP
H PULSE
V PULSE
SW
BLK
5V REG Q1003, D1010
+5V
+7V
9V REG Q400,D400
+9V
+12V
CURR BOOST 1,2 Q1005,1006 D1011,1012
+15V
IK SW1 Q408
IK SW2 Q409
SW Q807
BLK SW 1-3 Q804-806
D802
D801
D1001
MUTE1,2/SW Q1001,1002 D1002,1003
H BLK Q518,D519
RV513 H BLK
IC504 (1/2)
IC504 (2/2)
H BLK BUFF Q551
V PULS SW Q520
D528
C (R·G·B OUT)
900V
RV709 SCREEN
G2
170V
R,G,B DRIVE Q703,702,701
R,G,B OUT Q709,708,707
TARCE SW1- Q715-717
PROTECT D715-717
V BLK INV Q714
V BLK OUT Q713
V,P
R IK
G IK
B IK
V BLK INV1,2 Q324,325
COL SW2 Q317
D305
D306
D304
COL SW1 Q316
COMP SW Q322
SW Q323
SW Q338
BUFF
SW Q415
PIC VC MUTE Q416
COL VC BUFF1 Q335
COL VC BUFF Q337
D403
PIC VC BUFF1 Q336
PIC VC BUFF Q413
PIC VC BUFF Q407
D402
PIC SW Q401
BRT SW Q402
BRT SHIFT Q403
PIC ABL Q404
BRT ABL Q405
D401
IC308
GAIN
BIAS
R IK
G IK
B IK
SW
D303
D309
H/V DL SW Q314
DYNAM PIC SW Q315
R CLAMP Q302
B CLAMP Q304
R BUFF Q303
B BUFF Q301
IC1001
DC VOL ATT
AUDIO OUT
+12V REG Q1004, D1013
+15V
D523
CLAMP SW Q530
CLAMP REF Q528
Y BUFF Q531
CLAMP BUFF Q529
IC503 PULSE CLOSE
VIDEO
SYNC SEP
P/C SW
V SYNC
H SYNC
TV CLAMP SW Q803
DELAY SYNC 1,2 Q801,802
H SYNC Q517
V SIZE SW Q523
RV510 V SIZE
RV511 U/V SIZE
U/V SIZE SW Q514
RV508 V LINE
RV514 V BLK
D527
U/S SW Q513
50/60 SW Q524,Q526
D522
IC501 (2/3)
V BLK
V OSC
V DRIVE
IC501 (1/3)
V SYNC
D517
+115V
V DRIVE Q509
V OUT1 Q510
D516
L511
D513
D518
+24V
V OUT2 Q511
V OUT 1,2 D514,515
RV507 V CENT
V ZOOMING Q508
V CENT SW1 Q519
V CENT SW2 Q521
D521
RV504 PIN PHASE
RV503
IC502 (1/2)
RV510 U/H SIZE
PIN OUT Q517
L510
U/S SW Q515
U/H SIZE SW Q516
RV505 PIN AMP
PIN SW 1-4 Q512,532-534
D520
IC502 (2/2)
H FREQ SW Q522
H CENT SW Q526,D524
RV512 VIDEO PHASE
+24V
D501
RV501 H FRQ
H SYNC
H AFC
H OSC
H DRIVE
PROTECT
IC501 (3/3)
H DRIVE Q502
T502
L504
H OUT Q501
DAMPER D507,506
HV BUFF 1,2 Q505,506
CURR LIM 1,2 Q503,504
TV/EXT
W/B SEL
W/B SEL
EXT B OUT
EXT R IN
EXT B IN
R IK
G IK
B IK
SUB BRT
SW
AUDIO OUT
HP
50H
VP
H FRQ ADJ
TO Y BOARD E



IC401 R,G,B SW
TV R
TV G
TV B
EXT PIC
BRT
R IK
G IK
B IK
YS
EXT R
EXT G
EXT B
TV/EXT
TV CLAMP
EXT CLAMP
H PULSE
V PULSE
5V REG Q1003, D1010
9V REG Q400, D400
CURR BOOST 1, 2 Q1005, 1006 D1011, 1012
IK SW1 Q408
IK SW2 Q409
BLK SW 1-3 Q804 - 806
D802
D801
D1001
SW Q807
MUTE1, 2/SW Q1001, 1002 D1002, 1003
H BLK Q518, D519
IC504 (2/2)
IC504 (1/2)
RV513 H BLK
H BLK BUFF Q551
V PULS SW Q520
D528
D527
U/S SW Q513
V SIZE SW Q523
RV510 V SIZE
RV511 U/V SIZE
U/V SIZE SW Q514
RV508 V LINE
RV514 V BLK
D522
50/60 SW Q524, D526
IC501 (1/3)
V SYNC
D517
V OSC
V BLK
V DRIVE
IC501 (2/3)
V DRIVE Q509
V OUT 1 Q510
D516
+115V
L511
D513
D518
+24V
V OUT2 Q511
V OUT 1, 2 D514, 515
RV507 V CENT
V ZOOMING Q508
V CENT SW1 Q519
V CENT SW2 Q521
D521
U/S SW Q515
U/H SIZE SW Q516
RV505 PIN AMP
RV504 PIN PHASE
RV503
RV510 U/H SIZE
IC502 (1/2)
PIN OUT Q507
L510
L508 HLC
L507
L506
D511
D512
RV502 H CENT
PIN SW 1-4 Q512, 532 - 534
D520
IC502 (2/2)
BOW Q527
RV509 BOW
V ANG Q550
RV550 V ANG
C (R·G·B OUT)
900V
RV709 SCREEN
G2
170V
RV707 FOCUS
G4
CV
RV708 H START CONV
R,G,B DRIVE Q703, 702, 701
R,G,B OUT Q709, 708, 707
R,G,B BUFF Q706, 705, 704
TARCE SW1 - 3 Q715 - 717
PROTECT D715 - 717
PROTECT D707 - 709
V BLK INV Q714
V BLK OUT Q713
IK SW1 - 3 Q710 - 712
V.P
R IK
G IK
B IK
TO F BOARD
R,G,B
V901 PICTURE TUBE
HV
DEFLECTION YOKE
V+
V-
H-
H+
AHV
24V RECT D502
L502
+24V
+12V
IC505 12V REG
15V RECT D504, 505
+115V
+170V
170V RECT D502
+900V
900V RECT D506
T501 FBT
H1
H2
ABL JIG
DAMPER D507, 508
H FREQ SW Q522
H CENT SW Q526, D524
RV512 VIDEO PHASE
RV501 H FRQ
D501
H SYNC
H AFC
H OSC
H DRIVE
PROTECT
IC501 (3/3)
H DRIVE Q502
T502
L504
H OUT Q501
HV BUFF 1, 2 Q505, 506
CURR LIM 1, 2 Q503, 504
TV CLAMP SW Q803
DELAY SYNC 1, 2 Q801, 802
H SYNC Q517
HP
50H
VP
H FRQ ADJ
TO Y BOARD E

6-3. PRINTED WIRING BOARDS *– Conductor Side –*
– A Board –

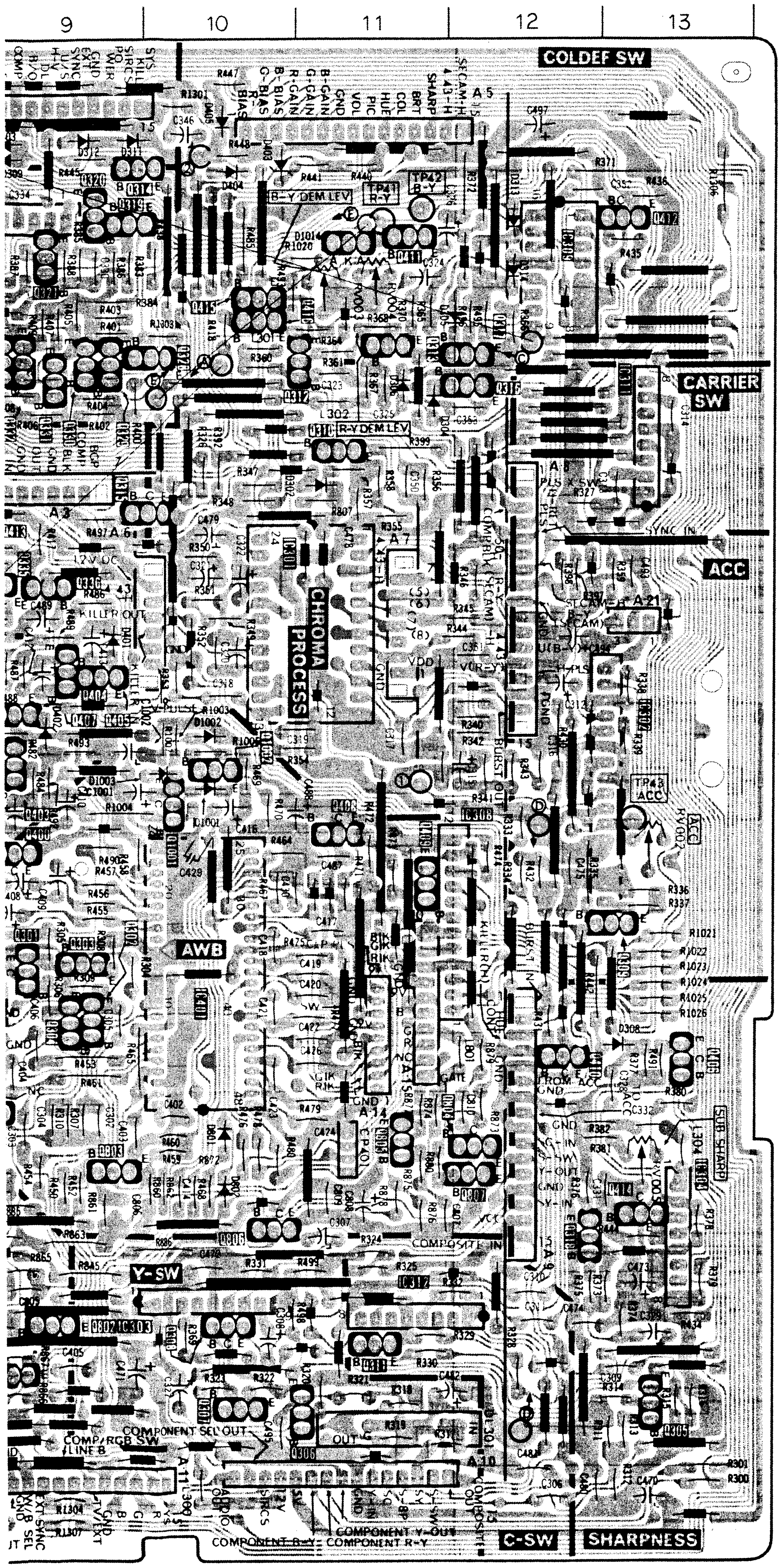
A [SIGNAL PROCESS, DEFLECTION SYSTEM]


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
HORIZONTAL DEFLECTION
12V REG
L CAD
BLACK INSERTION
COLDEF SW
V.REG
AUDIO
RGB MATRIX
BLUE ONLY SW
CHROMA PROCESS
CARRIER SW
ACC
AWB
HOLD DOWN
PULSE CROSS
Y-SW
DEFLECTION ADJ
VERTICAL DEFLECTION
H.V.BLK
C-SW
SHARPNESS
SONY
1-629-146-12
T501 FBT
RV502 H-CENT
H-SIZE
V-SIZE
V-LIN
V-CENT
U/H-SIZE
PIN PHASE
VIDEO PHASE
H-BLK
H-FREQ
SUB SHARP
B-Y DEM LEV
R-Y DEM LEV
SYNC IN
COMPONENT SEL OUT
COMP/RGB SW
COMPONENT Y-OUT
COMPONENT R-Y
COMPONENT B-Y
SYNC OUT
115V GND 7V 14V GND

IC	
IC301	D-11
IC302	E-13
IC303	I-10
IC304	H-13
IC305	B-7
IC306	D-8
IC307	E-8
IC308	F-12
IC309	B-12
IC311	C-13
IC312	I-11
IC401	G-10
IC501	H-5
IC502	E-5
IC503	H-7
IC504	I-7
IC505	A-4
IC1001	C-6

TRANSISTOR	
Q300	G-8
Q301	G-9
Q302	G-9
Q303	G-9
Q304	G-9
Q305	I-13
Q306	I-11
Q307	I-10
Q308	I-10
Q309	I-13
Q310	C-11
Q311	I-11
Q312	C-11
Q313	B-11
Q314	A-9
Q315	D-9
Q316	C-12
Q317	C-12
Q318	H-12
Q319	B-9
Q320	B-9
Q321	B-9
Q322	B-8
Q323	B-7
Q324	B-7
Q325	B-7
Q326	C-8
Q327	C-8
Q328	C-9
Q329	C-9
Q330	
Q331	
Q332	
Q333	
Q334	
Q335	
Q336	
Q337	
Q338	
Q400	
Q401	
Q402	
Q403	
Q404	
Q405	
Q406	
Q407	
Q408	
Q409	
Q410	
Q411	
Q412	
Q413	
Q414	
Q415	
Q416	
Q501	
Q502	
Q503	
Q504	
Q505	
Q506	
Q507	
Q508	
Q509	
Q510	
Q511	
Q512	
Q513	
Q514	
Q515	
Q516	
Q517	
Q518	
Q519	
Q520	
Q521	
Q522	
Q523	
Q524	
Q525	
Q526	
Q528	
Q529	
Q530	

[SIGNAL PROCESS, DEFLECTION SYSTEM]


9
10
11
12
13
COLDEF SW
CARRIER SW
ACC
CHROMA PROCESS
AWB
Y-SW
COMPONENT SEL OUT
COMPOSITE IN
SUB SHARP
C-SW
SHARPNESS
B-Y DEM LEV
R-Y DEM LEV
KILLER OUT
SYNC IN
COMPONENT R-Y
COMPONENT Y-OUT

IC	
IC301	D-11
IC302	E-13
IC303	I-10
IC304	H-13
IC305	B-7
IC306	D-8
IC307	E-8
IC308	F-12
IC309	B-12
IC311	C-13
IC312	I-11
IC401	G-10
IC501	H-5
IC502	E-5
IC503	H-7
IC504	I-7
IC505	A-4
IC1001	C-6

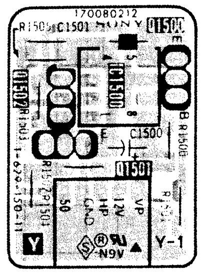
TRANSISTOR	
Q300	G-8
Q301	G-9
Q302	G-9
Q303	G-9
Q304	G-9
Q305	I-13
Q306	I-11
Q307	I-10
Q308	I-10
Q309	I-13
Q310	C-11
Q311	I-11
Q312	C-11
Q313	B-11
Q314	A-9
Q315	D-9
Q316	C-12
Q317	C-12
Q318	H-12
Q319	B-9
Q320	B-9
Q321	B-9
Q322	B-8
Q323	B-7
Q324	B-7
Q325	B-7
Q326	C-8
Q327	C-8
Q328	C-9
Q329	C-9
Q330	C-9
Q331	C-9
Q332	C-9
Q333	C-9
Q334	C-8
Q335	D-9
Q336	D-9
Q337	D-8
Q338	B-8
Q400	F-9
Q401	E-8
Q402	E-8
Q403	E-9
Q404	E-9
Q405	E-9
Q406	G-13
Q407	E-9
Q408	F-11
Q409	F-11
Q410	G-12
Q411	B-11
Q412	B-13
Q413	D-8
Q414	H-13
Q415	B-10
Q416	B-10
Q501	C-2
Q502	E-3
Q503	H-2
Q504	H-2
Q505	H-4
Q506	H-4
Q507	D-4
Q508	F-6
Q509	F-7
Q510	E-6
Q511	D-6
Q512	I-2
Q513	I-1
Q514	I-2
Q515	I-1
Q516	J-1
Q517	H-7
Q518	J-7
Q519	G-7
Q520	I-7
Q521	F-7
Q522	I-3
Q523	F-6
Q524	F-6
Q525	I-6
Q526	I-5
Q528	G-7
Q529	H-8
Q530	G-8
Q531	H-8
Q532	I-5
Q533	I-5
Q534	H-2
Q550	H-1
Q551	I-7
Q801	I-9
Q802	I-9
Q803	H-9
Q804	H-12
Q805	H-11
Q806	H-10
Q807	H-12
Q1001	E-10
Q1002	E-10
Q1003	A-6
Q1004	B-5
Q1005	A-4
Q1006	B-4

DIODE	
D302	C-11
D303	A-9
D304	C-12
D305	B-11
D306	C-11
D307	C-7
D308	G-13
D309	A-9
D311	A-9
D312	A-9
D400	F-8
D401	D-9
D402	E-9
D403	A-10
D404	A-10
D405	A-10
D501	G-4
D502	G-2
D503	F-3
D504	F-1
D505	E-1
D506	E-3
D507	C-3
D508	B-1
D509	G-3
D510	I-4
D511	D-4
D512	C-4
D513	E-6
D514	D-5
D515	D-4
D516	D-6
D517	H-6
D518	E-6
D519	J-8
D520	H-2
D521	I-5
D522	F-6
D523	G-8
D524	J-6
D526	G-6
D527	I-1
D528	I-6
D529	I-8
D530	E-1
D531	E-1
D801	H-10
D802	H-10
D1001	E-10
D1002	E-10
D1003	E-10
D1010	A-6
D1011	B-4
D1012	A-5
D1013	B-5
D1014	B-11

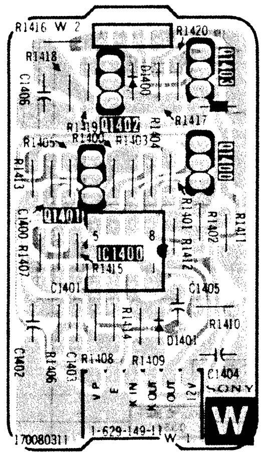
VARIABLE RESISTOR	
RV002	E-13
RV003	B-11
RV004	B-11
RV005	H-13
RV006	C-7
RV007	C-7
RV501	G-5
RV502	C-5
RV503	I-1
RV504	J-2
RV505	I-2
RV506	I-2
RV507	I-3
RV508	I-3
RV509	I-2
RV510	J-1
RV511	J-2
RV512	J-3
RV513	J-3
RV514	G-6
RV550	J-2

W [3.58/4.43 DISTINCTION] **XA** [CRYSTAI OSC

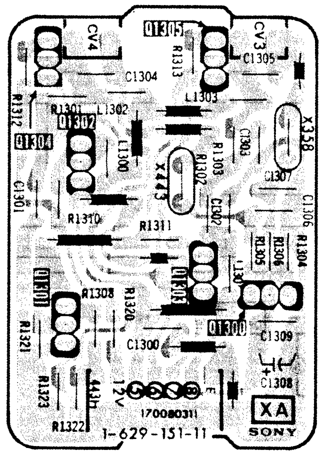
– Y Board –


Q1500
Q1501
C1500
C1501
R1500
170080212
Y
Y-1

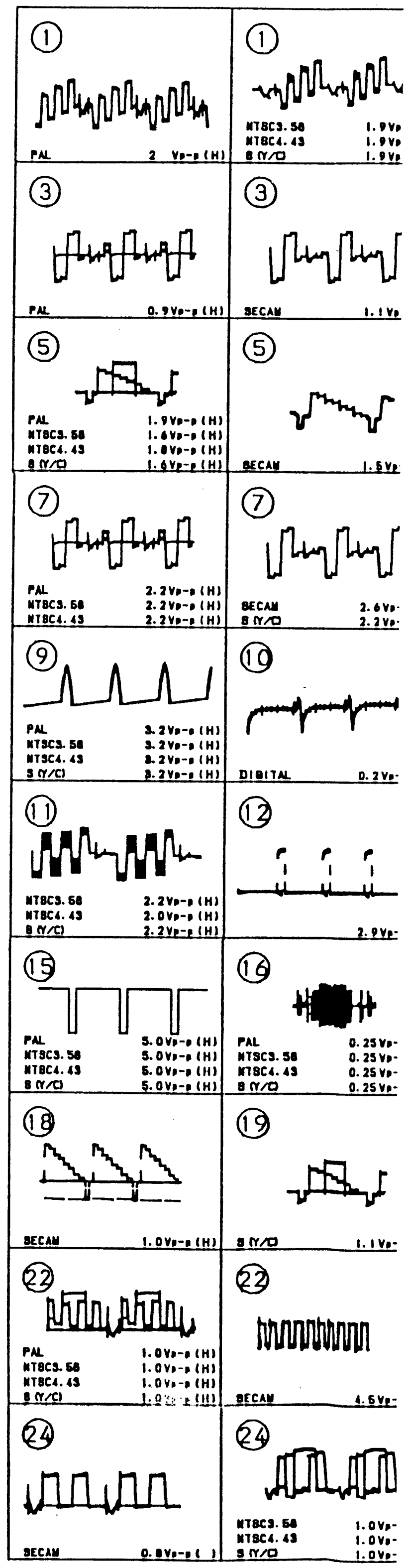
– W Board –


W 2
R1416
R1420
Q1402
Q1401
Q1403
Q1400
IC1400
C1404
C1405
C1401
170080311
1-629-149-11
W-1
SONY
W

– XA Board –


CV4
CV3
Q1305
Q1302
Q1304
Q1300
L1302
L1303
C1304
C1305
X443
X358
R1310
R1311
R1322
R1323
170080311
1-629-151-11
XA
SONY

A BOARD WAVEFORM



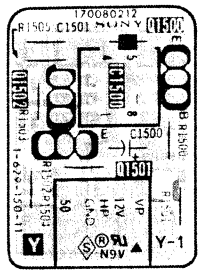
W [3.58/4.43 DISTINCTION] **XA** [CRYSTAL OSC] **Y** [50/60 DISTINCTION]

D-6
H-6
E-6
J-8
H-2
I-5
F-6
G-8
J-6
G-6
I-1
I-6
I-8
E-1
E-1
H-10
H-10
E-10
E-10
E-10
A-6
B-4
A-5
B-5
B-11

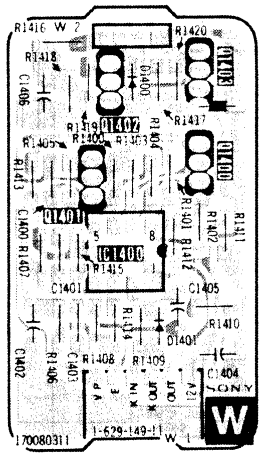
BLE
TOR

E-13
B-11
B-11
H-13
C-7
C-7
G-5
C-5
I-1
J-2
I-2
I-2
I-3
I-3
I-2
J-1
J-2
J-3
J-3
G-6
J-2

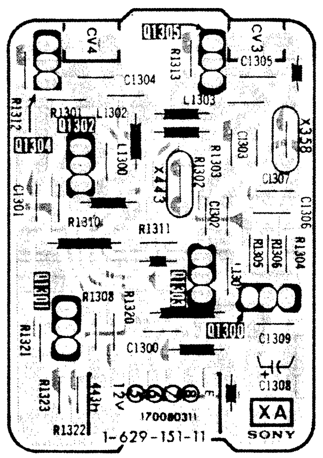
– Y Board –


170080212
R1505
C1501
SONY
Q1500
Q1502
IC1500
R1503
C1500
R1500
Q1501
R1502
R1501
1-629-150-11
50
GND
HP
12V
VP
N9V
Y
Y-1

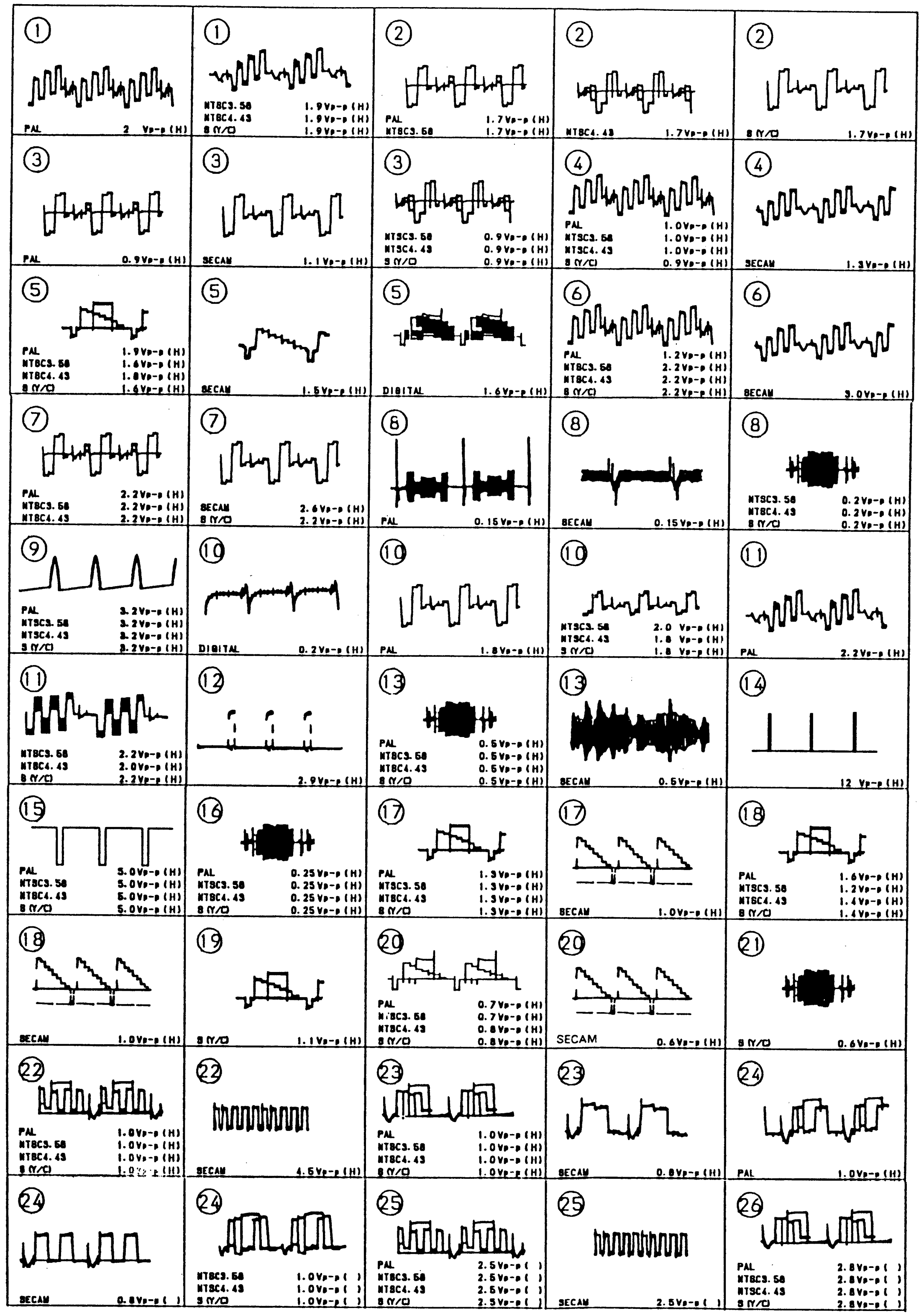
– W Board –

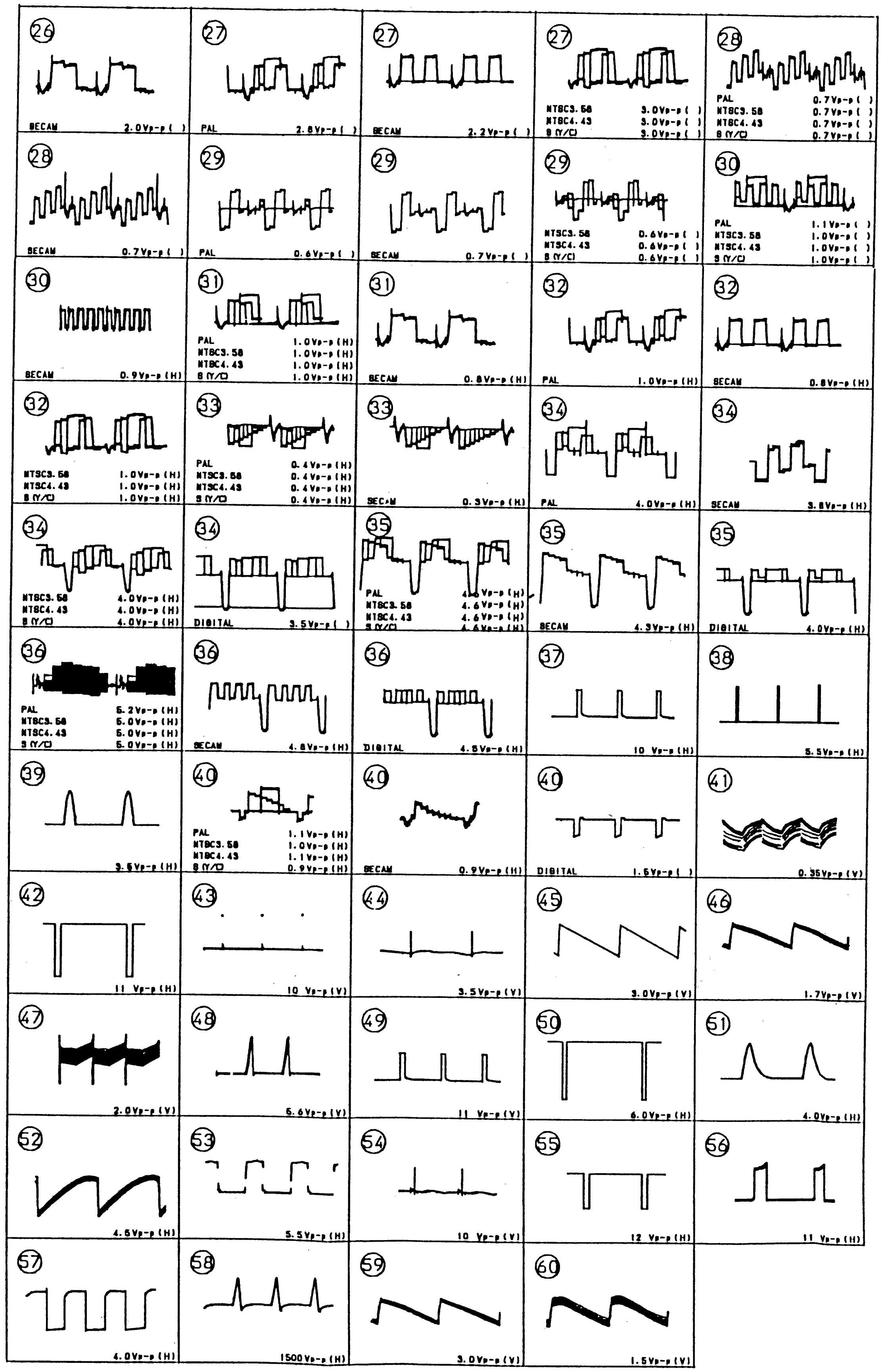

R1416
W 2
R1420
R1418
C1406
D1400
Q1403
R1419
Q1402
R1417
R1405
R1400
R1403
R1404
Q1400
R1413
Q1401
R1401
R1402
R1411
C1400
R1407
IC1400
R1412
R1415
C1401
C1405
R1414
R1410
D1401
C1402
R1406
C1403
R1408
R1409
C1404
VP
E
K IN
K OUT
OUT
12V
SONY
W
170080311
1-629-149-11
W 1

– XA Board –

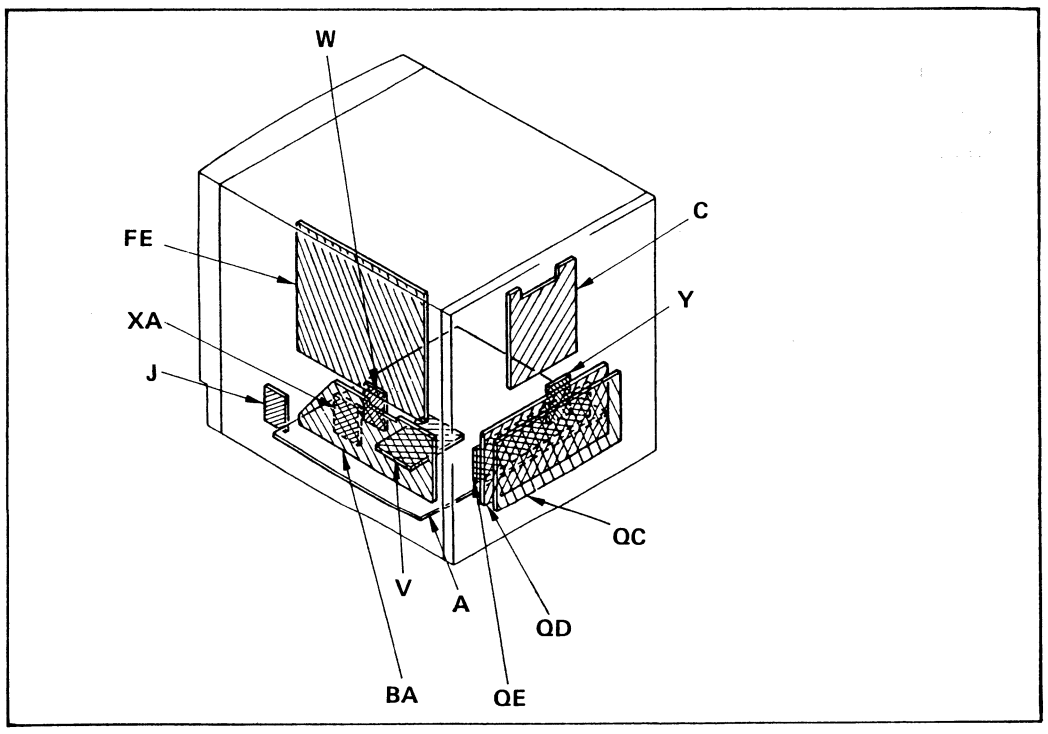

CV4
Q1305
CV3
C1305
R1313
C1304
L1303
R1312
R1301
L1302
Q1302
Q1304
L1300
X443
R1302
R1303
C1303
X358
C1307
C1301
C1302
C1306
R1310
R1311
R1305
R1306
R1304
Q1301
Q1303
R1308
R1320
Q1300
R1321
C1300
C1309
C1308
R1323
443h
12V
R1322
170080311
1-629-151-11
XA
SONY

A BOARD WAVEFORM





6-4. CIRCUIT BOARDS LOCATION


W
C
FE
Y
XA
J
QC
V
A
QD
BA
QE

Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50 WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm
Rating electrical power 1/4W

- All resistors are in ohms.
- —▭— : nonflammable resistor.
- —⌇— : fusible resistor.
- △ : internal component.
- ▭ : panel designation.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- When replacing the part in below table be sure to perform the related adjustment.

Part replaced	Adjustment (※)
IC501, Q503, Q504, Q505, Q506, D509, D510, C505, C520, C524, C525, C526, C527, C528, C529, C530, C531, R500, R506, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R528, R804, NL501, HVR	R500 (HOLD-DOWN)

- All voltages are in V.
- Voltage are dc with respect to ground unless otherwise noted.
- Readings are taken with a color-bar signal input.
- Readings are taken with a PAL color-bar signal input.
- ▭ : adjustment for repair.
- Voltage variations may be noted due to normal production tolerance.
- ▬▬ : B+ bus.
- ▬ ▬ ▬ : B− bus.
- ░░░ : signal path.
- No mark : with PAL color-bar signal received or common voltage.
- ( ) : with SECAM color-bar signal received.
- 〈 〉 : with NTSC 3.58 color-bar signal received.
- (( )) : with NTSC 4.43 color-bar signal received.
- [ ] : with S (Y/C) color-bar signal received.
- { } : with digital (9 pin in) color-bar signal received.
- ※ : measurement impossibility.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE WIREWOUND
	: RB	NONFLAMMABLE CEMENT
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

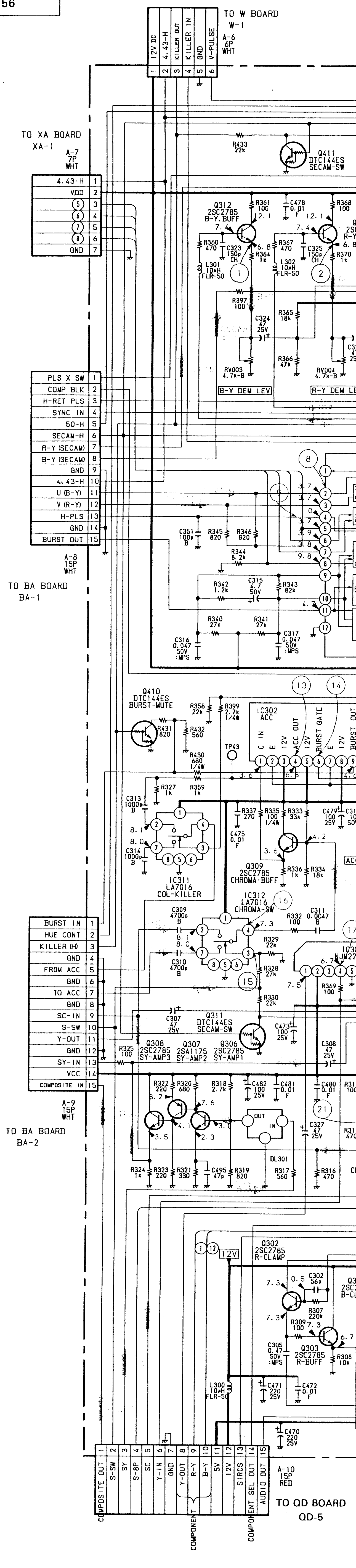
6-5. SCHEMATIC DIAGRAMS

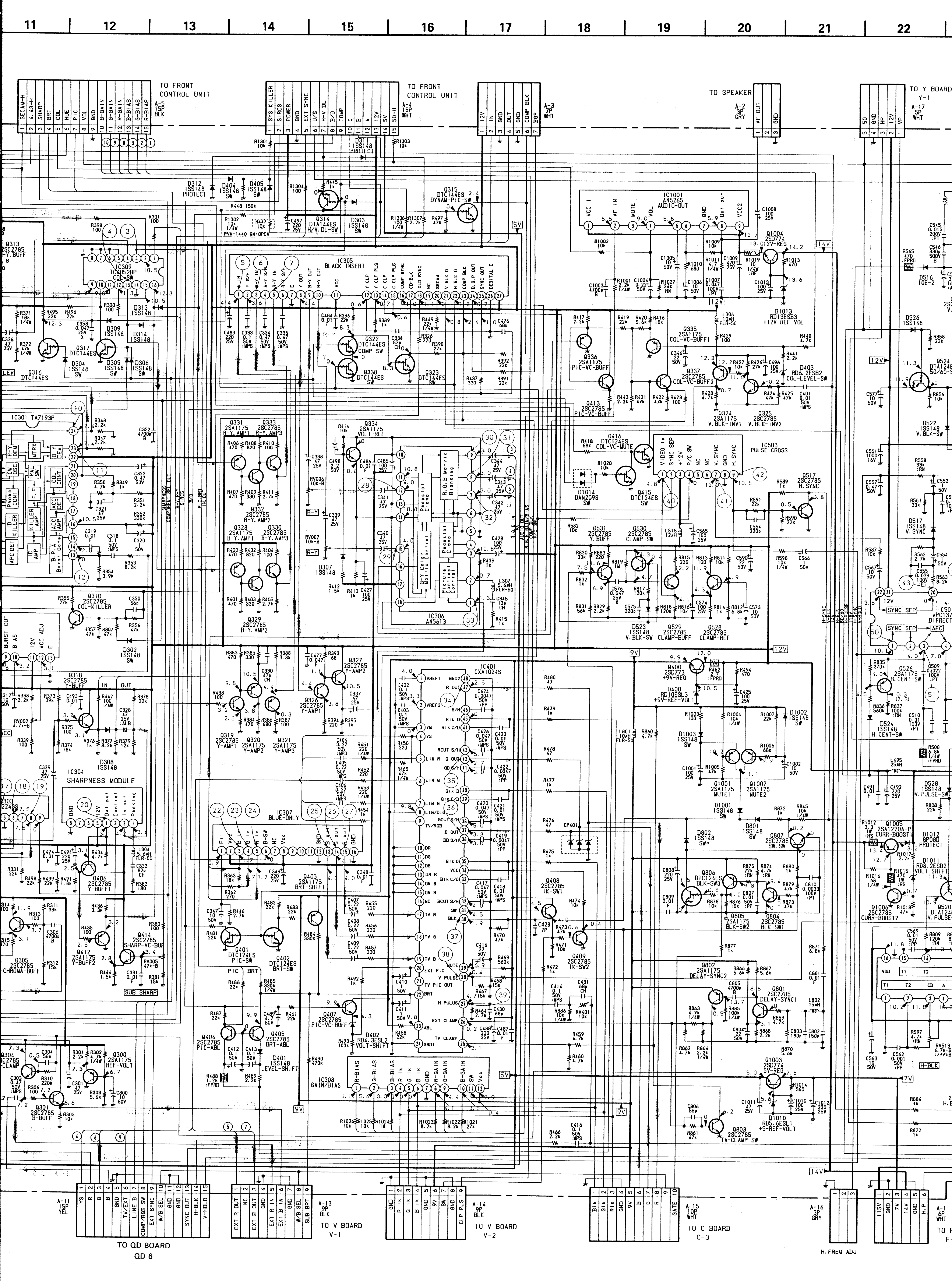
The inner schematic diagrams (IC302, 304, 305, 307, 308, 503): See page 54–56

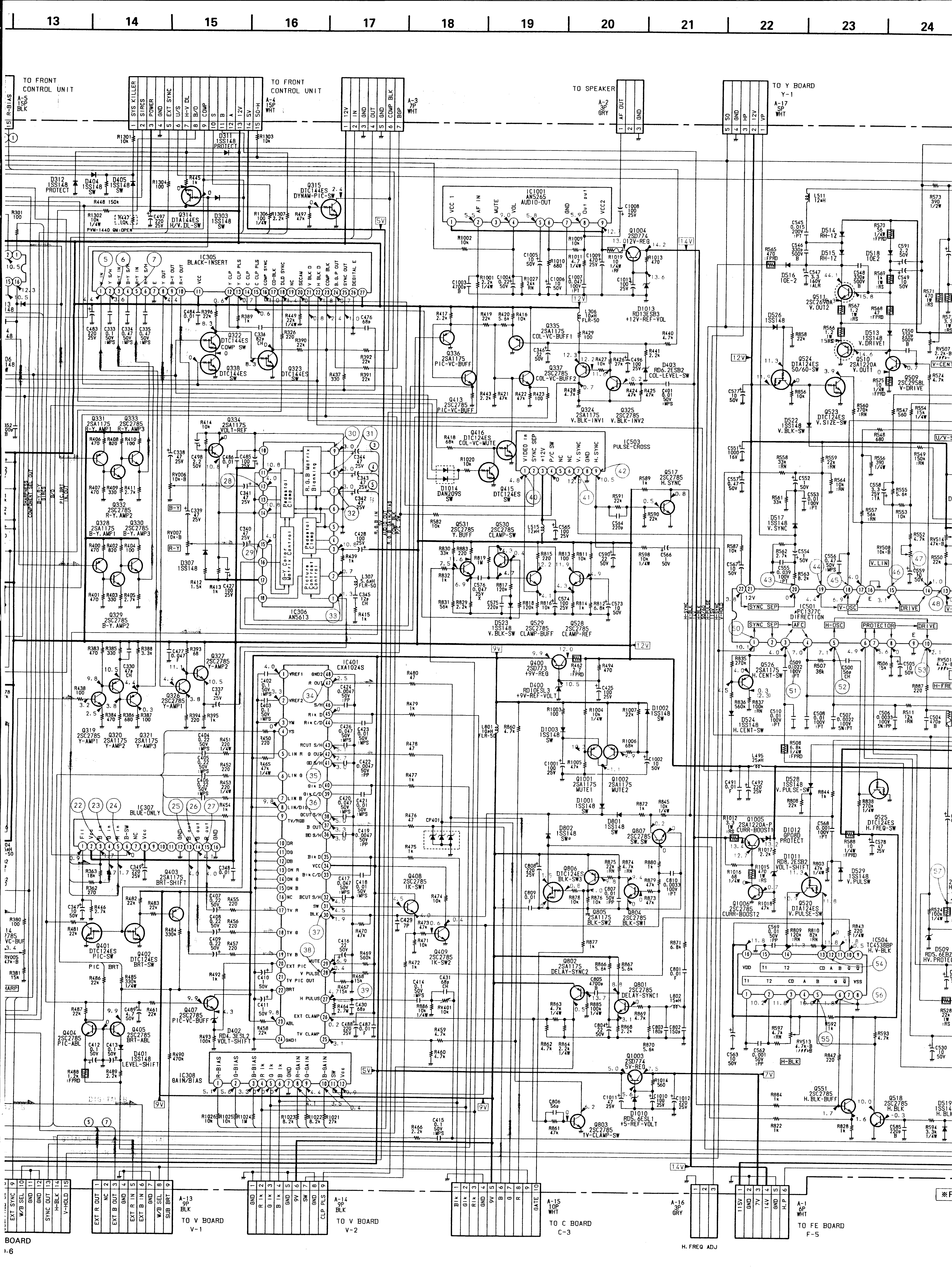
A BOARD

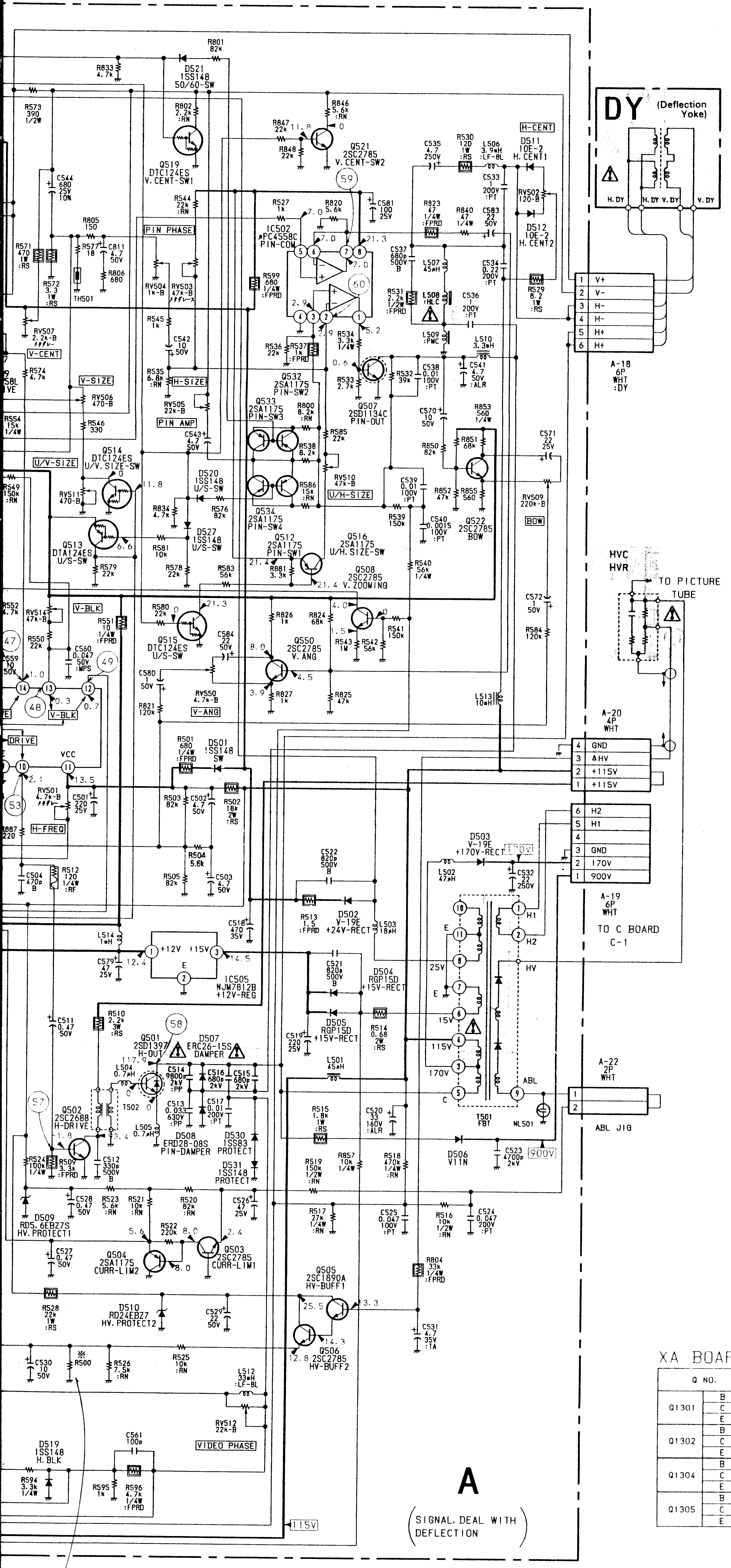
IC·NO	PIN·NO	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
IC301	⑨⑩	8.6	8.6	8.6	8.6	8.6	8.1
	⑳	8.4	2.2	8.4	8.4	8.4	2.2
	㉑	6.5	7.5	6.5	6.5	6.5	7.5
IC302	⑥	1.4	1.4	1.4	1.4	1.4	2.3
IC303	⑦	0	0	0	0	3.8	0.4
IC304	③	0	2.8	2.8	2.8	2.4	2.4
IC305	③	7.0	10.2	7.0	7.0	7.0	7.0
	④	6.4	9.6	6.4	6.4		
	⑤	6.9	10.2	6.9	6.9	6.9	6.9
	⑥	6.3	9.6	6.4	6.4	6.4	6.4
	⑨⑩	6.8	10.0	6.8	6.8		
IC306	⑯	7.9	9.5	9.4	6.1	6.1	6.1
	⑱	6.4	6.3	6.3	5.0	5.0	5.1
IC309	①	1.1	1.7	3.0	1.8	1.5	
	③	9.1	10.5	9.1	9.1	9.1	
	④	9.1	8.9	9.1	9.1	9.1	
	⑩	12.3	0.1	12.3	12.3	12.3	
	⑬	9.1	10.5	9.1			
IC311	③	4.3	0	4.3	4.3	4.3	0
	④	7.3	7.3	7.3	7.3	7.3	8.0
IC312	③	0	0	0	0	4.9	0.5
IC401	④	2.8	0.9	0.9	0.9	0.9	1.1
	⑤⑥⑦	0.9	4.4	4.4	4.4	4.4	4.8
	⑨	4.4	5.3	5.3	5.3	5.3	0
	⑰⑱⑲	5.3	6.0	6.0	6.0	6.0	5.1
	⑳	6.0	5.7	5.6	3.6	2.6	2.6
	㉝	4.3	1.0	1.2	0.8	0.6	0.6
	㉟	0.7	0.2	0.3	0	0	0
	㊴	0.4	0.8	1.1	0.7	0.7	0.7
	㊵	0.5	0.2	0.3	0	0	0
	㊹	0.3	1.0	0.7	0.6	0.6	0.6
	㊻	0.5	3.1	3.2	3.1	3.0	3.0
IC503	②	2.9	1.0	1.0	1.0	1.0	1.6

Q NO.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
Q310	B	4.3	0	4.3	4.3		
	C	0.2	0	0.2	0.2		
	E						
Q316	B	0	0.2	0.3	0	0	0
	C						
	E						
Q317	B	0	11.7	0.3	0	0.3	0
	C	12.3	0.1	12.3	12.3	12.3	12.3
	E						
Q322	B						
	C	0	0.2	0.3	0	0	0
	E						
Q323	B	0	0.2	0.3	0	0	0
	C						
	E						
Q328	B	9.1	10.5	9.1	9.1		
	C	2.5	1.2	2.5	2.5		
	E	9.8	11.0	9.8	9.8		
Q329	B	2.5	1.2	2.5	2.5		
	C	7.6	10.8	7.6	7.6		
	E	1.9	0.6	1.9	1.9		
Q330	B	7.6	10.8	7.6	7.6		
	C	12.1	11.9	12.1	12.1		
	E	7.0	10.2	7.0	7.0		
Q331	B	9.1	10.5	9.1	9.1		
	C	2.6	1.2	2.6	2.6		
	E	9.8	11.1	9.8	9.8		
Q332	B	2.6	1.2	2.6	2.6		
	C	7.5	10.8	7.5	7.5		
	E	1.9	0.6	1.9	1.9		
Q333	B	7.5	10.8	7.5	7.5		
	C	12.1	11.9	12.1	12.1		
	E	6.9	10.9	6.9	6.9		
Q335	B	6.8	6.2	5.4	5.4		
	C						
	E	7.4	6.8	6.0	6.0		
Q336	B	9.0	9.5	9.7	9.7		
	C						
	E	9.6	10.1	10.4	7.8		
Q337	B	7.0	6.8	6.3	5.8		
	C						
	E	6.4	6.3	5.8	5.3		
Q401	B						
	C	7.9	9.5	9.7	7.2		6.0
	E						
Q404	B						
	C	7.8	9.5	9.7	7.0		5.8
	E	0.3	0.4	0	0.6	0.6	1.4
Q405	B						
	C	4.0	4.5	4.3	4.4		4.0
	E	0.3	0.4	0.2	0	0	
Q407	B	7.9	9.5	9.7	7.2		6.0
	C						
	E	7.9	9.0	9.2	6.7		5.6
Q411	B	0	12.2	0	0		
	C	0.5	0.1	0.5	0.5		
	E						
Q413	B	8.6	10.1	10.4	7.8		
	C						
	E	7.9	9.5	9.7	7.2	6.1	6.1
Q415	B	0	8.2	0	0		
	C	0.3	0	0.3	0.3		
	E						
Q416	B	0.3	0	0.3	0.3		
	C	7.0	6.8	6.3	5.8		
	E						
Q507	B						
	C	11.0	9.6	10.6	10.5		
	E						
Q516	B						
	C	3.3	2.9	2.9	2.9		
	E						
Q532	B	3.9	4.3	2.4	2.4		
	C	3.4	3.0	2.9	2.9		
	E	3.3	2.9	2.9	2.9		
Q534	B	2.8	2.4	2.4	2.4		
	C						
	E	3.3	2.9	2.9	2.9		

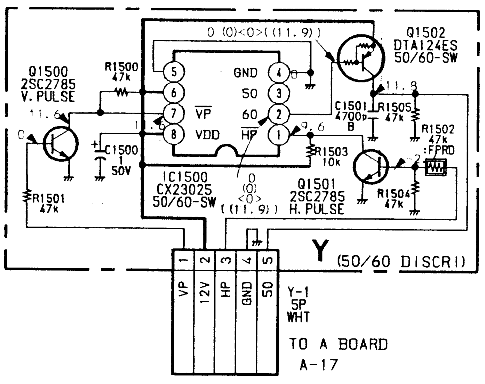

TO W BOARD
W-1
A-6 6P WHT
12V DC
4.43-H
KILLER OUT
KILLER IN
GND
V-PULSE
TO XA BOARD
XA-1
A-7 7P WHT
4.43-H
VDD
GND
Q411 DTC144ES SECAM-SW
R433 22k
Q312 2SC2785 B-Y.BUFF
RV003 4.7k-B
B-Y DEM LEV
RV004 4.7k-B
R-Y DEM LE
PLS X SW
COMP BLK
H-RET PLS
SYNC IN
50-H
SECAM-H
R-Y (SECAM)
B-Y (SECAM)
GND
4.43-H
U (B-Y)
V (R-Y)
H-PLS
GND
BURST OUT
A-8 15P WHT
TO BA BOARD
BA-1
Q410 DTC144ES BURST-MUTE
IC302 ACC
IC311 LA7016 COL-KILLER
Q309 2SC2785 CHROMA-BUFF
IC312 LA7016 CHROMA-SW
BURST IN
HUE CONT
KILLER (H)
GND
FROM ACC
GND
TO ACC
GND
SC-IN
S-SW
Y-OUT
GND
SY-IN
VCC
COMPOSITE IN
A-9 15P WHT
TO BA BOARD
BA-2
Q311 DTC144ES SECAM-SW
Q308 2SC2785 SY-AMP3
Q307 2SA1175 SY-AMP2
Q306 2SC2785 SY-AMP1
DL301
Q302 2SC2785 R-CLAMP
Q303 2SC2785 R-BUFF
COMPOSITE OUT
S-SW
SY
S-BP
SC
Y-IN
GND
Y-OUT
R-Y
B-Y
5V
12V
SIRCS
COMPONENT SEL OUT
AUDIO OUT
COMPONENT
A-10 15P RED
TO QD BOARD
QD-5

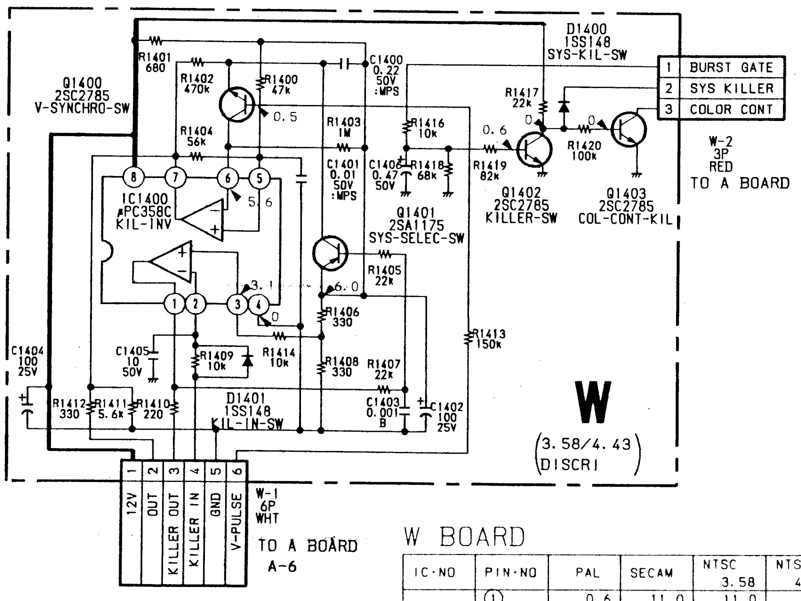

11
12
13
14
15
16
17
18
19
20
21
22
TO FRONT CONTROL UNIT
A-5 15P BLK
SECAM-H
4.43-H
SHARP
BRT
COL
HUE
PIC
VOL
GND
B-GAIN
G-GAIN
R-GAIN
B-BIAS
G-BIAS
R-BIAS
TO FRONT CONTROL UNIT
A-4 15P WHT
SYS KILLER
SIRCS
POWER
GND
EXT SYNC
U/S
H-V DL
B/O
COMP
S
B
A
12V
5V
SO-H
A-3 7P WHT
12V
IN
GND
GND
OUT
COMP BLK
BOP
TO SPEAKER
A-2 3P GRY
AF OUT
GND
TO Y BOARD Y-1
A-17 5P WHT
IC1001 AN5265 AUDIO-OUT
VCC 1
AF IN
MUTE
VOL
GND
Out put
VCC2
Q1004 2SD774 13.0 12V-REG
D1013 RD13ESB3 +12V-REF-VOL
D311 1SS148 PROTECT
D312 1SS148 PROTECT
D404 1SS148 SW
D405 1SS148 SW
Q314 DTA144ES H/V.DL-SW
D303 1SS148 SW
Q315 DTC144ES DYNAM-PIC-SW
PVM-1440 QM:OPEN
Q313 2SC2785 Y.BUFF
IC309 TC4052BP COL-SW
D313 1SS148
D309 1SS148
D314 1SS148
Q317 DTC144ES
D304 1SS148 SW
D305 1SS148 SW
D306 1SS148 SW
Q316 DTC144ES
IC305 BLACK-INSERT
Q322 DTC144ES COMP SW
Q338 DTC144ES SW
Q323 DTC144ES SW
Q336 2SA1175 PIC-VC-BUFF
Q413 2SC2785 PIC-VC-BUFF
Q335 2SA1175 COL-VC-BUFF1
Q337 2SC2785 COL-VC-BUFF2
D403 RD6.2ESB2 COL-LEVEL-SW
Q324 2SA1175 V.BLK-INV1
Q325 2SC2785 V.BLK-INV2
IC301 TA7193P
R-Y DEM
B-Y DEM
MTRX
OSC
PAL SW
COL CONT
Phase CONT
F.F
ACC DET
ID KILLER
KILLER AMP
ACC AMP
APC DET
ID AMP
B.P.A Burst Gate
Q331 2SA1175 R-Y.AMP1
Q333 2SC2785 R-Y.AMP3
Q332 2SC2785 R-Y.AMP2
Q328 2SA1175 B-Y.AMP1
Q330 2SC2785 B-Y.AMP3
Q329 2SC2785 B-Y.AMP2
Q334 2SA1175 VOLT-REF
IC306 AN5613
R.G.B Matrix Blanking
Pedestal Clamp
G-Y Color Matrix Control
Pedestal Clamp
Picture Control
Brightness Control
D307 1SS148
Q416 DTC124ES COL-VC-MUTE
D1014 DAN209S SW
Q415 DTC124ES SW
IC503 PULSE-CROSS
VIDEO In
SYNC SEP
P/C SW
NC
V.SYNC
GND
H.SYNC
Q517 2SC2785 H.SYNC
Q531 2SC2785 Y.BUFF
Q530 2SC2785 CLAMP-SW
D523 1SS148 V.BLK-SW
Q529 2SC2785 CLAMP-BUFF
Q528 2SC2785 CLAMP-REF
Q310 2SC2785 COL-KILLER
D302 1SS148 SW
BURST OUT
BIAS
12V
ACC ADJ
Q318 2SC2785 Y-BUFF
IN
OUT
IC304 SHARPNESS MODULE
D308 1SS148
GND
12V
Out put
Control
In put
Peaking
Q319 2SC2785 Y-AMP1
Q320 2SA1175 Y-AMP2
Q321 2SA1175 Y-AMP3
Q326 2SC2785 Y-AMP1
Q327 2SC2785 Y-AMP2
IC307 BLUE-ONLY
Q403 2SA1175 BRT-SHIFT
IC401 CXA1024S
VREF1
VREF2
YM
YS
LIN R
LIN G
LIN B
LIN/DIG
TV/RGB
DR
DG
DB
ON R
ON G
ON B
NC
TV R
TV G
TV B
EXT PIC
TV PIC
BRT
ABL
GND1
GND2
R OUT
G OUT
B OUT
S/H
VCC
SW
BLK
MUTE
V PULSE
H PULUS
EXT CLAMP
TV CLAMP
Q400 2SD773 +9V-REG
D400 RD10ESL3 +9V-REF-VOLT
D1002 1SS148 SW
D1003 1SS148 SW
Q1001 2SA1175 MUTE1
Q1002 2SA1175 MUTE2
D1001 1SS148 SW
D801 1SS148 SW
D802 1SS148 SW
Q807 2SC2785 SW.SW
Q806 DTC124ES BLK-SW3
Q805 2SA1175 BLK-SW2
Q804 2SC2785 BLK-SW1
Q408 2SC2785 IK-SW1
Q409 2SC2785 IK-SW2
Q802 2SA1175 DELAY-SYNC2
Q801 2SC2785 DELAY-SYNC1
Q1003 2SD774 5V-REG
D1010 RD5.6ESL1 +5-REF-VOLT
Q803 2SC2785 TV-CLAMP-SW
Q406 2SC2785 Y-BUFF1
Q414 2SC2785 SHARP-VC-BUF
Q412 2SC2785 Y-BUFF2
Q305 2SC2785 CHROMA-BUFF
SUB SHARP
Q401 DTC124ES PIC-SW
Q402 DTC124ES BRT-SW
PIC
BRT
Q407 2SC2785 PIC-VC-BUFF
D402 RD4.3ESL2 VOLT-SHIFT
Q404 2SC2785 PIC-ABL
Q405 2SC2785 BRT-ABL
D401 1SS148 LEVEL-SHIFT
IC308 GAIN/BIAS
R-BIAS
G-BIAS
B-BIAS
R Ik
G Ik
B Ik
GND
R-GAIN
G-GAIN
B-GAIN
SW
Vcc
Q300 2SA1175 REF-VOLT
Q304 2SC2785 CLAMP
Q301 2SC2785 B-BUFF
Q526 2SC2785 H.CENT-SW
D524 1SS148 H.CENT-SW
IC50 μPC137 DIFRECT
SYNC SEP
AFC
D528 1SS148 V.PULSE-SW
Q1005 2SA1220A-P CURR-BOOST1
D1012 GP08D PROTECT
D1011 RD8.2ESB2 VOLT-SHIFT
Q1006 2SC2785 CURR-BOOST2
Q520 DTA124 V.PULSE
Q524 DTA124E
D516 10E-2
D526 1SS148
D522 1SS148 V.BLK-SW
D517 1SS148 V.SYNC
H-BLK
A-11 15P YEL
Y
R
G
B
GND
TV/EXT
LINE B
COMP/RGB SW
EXT SYNC
W/B SEL
GND
GND
SYNC OUT
H-BLK
V-HOLD
TO QD BOARD QD-6
A-13 9P BLK
EXT R OUT
NC
EXT B OUT
EXT R IN
EXT G IN
EXT B IN
GND
W/B SEL
SUB BRT
TO V BOARD V-1
A-14 9P BLK
GND
R Ik
G Ik
B Ik
GND
9V
SW
GND
CLP PLS
TO V BOARD V-2
A-15 10P WHT
Blk
Gik
Rik
GND
9V
B
G
R
GND
GATE
TO C BOARD C-3
A-16 3P GRY
H.FREQ ADJ
A-1 6P WHT
115V
GND
7V
14V
GND
H.P
5V
9V
12V
14V


13
14
15
16
17
18
19
20
21
22
23
24
TO FRONT CONTROL UNIT
A-5 15P BLK
TO FRONT CONTROL UNIT
A-4 15P WHT
SYS KILLER
SIRCS
POWER
GND
EXT SYNC
U/S
H-V DL
B/O
COMP
S
B
A
12V
5V
50-H
A-3 7P WHT
12V
IN
GND
OUT
GND
COMP BLK
BGP
TO SPEAKER
A-2 3P GRY
AF OUT
TO Y BOARD Y-1
A-17 5P WHT
50
GND
HP
12V
VP
D311 1SS148 PROTECT
D312 1SS148 PROTECT
D404 1SS148 SW
D405 1SS148 SW
Q314 DTA144ES H/V.DL-SW
D303 1SS148 SW
Q315 DTC144ES DYNAM-PIC-SW
PVM-1440 QM:OPEN
IC1001 AN5265 AUDIO-OUT
VCC 1
AF IN
MUTE
VOL
GND
Out put
VCC2
Q1004 2SD774 12V-REG
D1013 RD13ESB3 +12V-REF-VOL
IC305 BLACK-INSERT
Q322 DTC144ES COMP SW
Q338 DTC144ES SW
Q323 DTC144ES SW
Q336 2SA1175 PIC-VC-BUFF
Q335 2SA1175 COL-VC-BUFF1
Q337 2SC2785 COL-VC-BUFF2
D403 RD6.2ESB2 COL-LEVEL-SW
Q413 2SC2785 PIC-VC-BUFF
Q324 2SA1175 V.BLK-INV1
Q325 2SC2785 V.BLK-INV2
Q331 2SA1175 R-Y.AMP1
Q333 2SC2785 R-Y.AMP3
Q332 2SC2785 R-Y.AMP2
Q328 2SA1175 B-Y.AMP1
Q330 2SC2785 B-Y.AMP3
Q329 2SC2785 B-Y.AMP2
Q334 2SA1175 VOLT-REF
IC306 AN5613
R.G.B Matrix Blanking
Pedestal Clamp
G-Y Color Matrix Control
Pedestal Clamp
Picture Control
D307 1SS148
Q416 DTC124ES COL-VC-MUTE
D1014 DA209S SW
Q415 DTC124ES SW
IC503 PULSE-CROSS
VIDEO In
SYNC SEP
+12V
P/C SW
NC
NC
V.SYNC
GND
H.SYNC
Q517 2SC2785 H.SYNC
Q531 2SC2785 Y.BUFF
Q530 2SC2785 CLAMP-SW
D523 1SS148 V.BLK-SW
Q529 2SC2785 CLAMP-BUFF
Q528 2SC2785 CLAMP-REF
Q327 2SC2785 Y-AMP2
Q326 2SC2785 Y-AMP1
Q319 2SC2785 Y-AMP1
Q320 2SA1175 Y-AMP2
Q321 2SA1175 Y-AMP3
IC307 BLUE-ONLY
Q403 2SA1175 BRT-SHIFT
Q401 DTC124ES PIC-SW
Q402 DTC124ES BRT-SW
IC401 CXA1024S
Q408 2SC2785 IK-SW1
Q409 2SC2785 IK-SW2
CP401
Q407 2SC2785 PIC-VC-BUFF
D402 RD4.3ESL2 VOLT-SHIFT
Q404 2SC2785 PIC-ABL
Q405 2SC2785 BRT-ABL
D401 1SS148 LEVEL-SHIFT
IC308 GAIN/BIAS
R-BIAS
G-BIAS
B-BIAS
R Ik
G Ik
B Ik
GND
R-GAIN
G-GAIN
B-GAIN
SW
Vcc
Q400 2SD773 +9V-REG
D400 RD10ESL3 +9V-REF-VOLT
D1002 1SS148 SW
D1003 1SS148 SW
Q1001 2SA1175 MUTE1
Q1002 2SA1175 MUTE2
D1001 1SS148 SW
D802 1SS148 SW
D801 1SS148 SW
Q807 2SC2785 SW.SW
Q806 DTC124ES BLK-SW3
Q805 2SA1175 BLK-SW2
Q804 2SC2785 BLK-SW1
Q802 2SA1175 DELAY-SYNC2
Q801 2SC2785 DELAY-SYNC1
Q1003 2SD774 5V-REG
D1010 RD5.6ESL1 +5-REF-VOLT
Q803 2SC2785 TV-CLAMP-SW
Q511 2SC2670A V.OUT2
Q510 2SA1220A V.OUT1
Q509 2SC2958L V-DRIVE
Q524 DTA124ES 50/60-SW
Q523 DTC124ES V.SIZE-SW
D522 1SS148 V.BLK-SW
D513 1SS148 V.DRIVE1
D514 RH-1Z
D515 RH-1Z
D516 10E-2
D518 10E2
D526 1SS148
D517 1SS148 V.SYNC
IC501 μPC1377C DIFRECTION
SYNC SEP
AFC
H-OSC
PROTECTOR
DRIVE
V-OSC
V.LIN
Q526 2SA1175 H.CENT-SW
D524 1SS148 H.CENT-SW
D528 1SS148 V.PULSE-SW
Q525 DTC124ES H.FREQ-SW
Q1005 2SA1220A-P CURR-BOOST1
D1012 GP08D PROTECT
D1011 RD8.2ESB2 VOLT-SHIFT
Q1006 2SC2785 CURR-BOOST2
Q520 DTA124ES V.PULSE-SW
D529 1SS148 V.PULSW
IC504 TC4538BP H.V-BLK
H-BLK
Q551 2SC2785 H.BLK-BUFF
Q518 2SC2785 H.BLK
B-Y
R-Y
9V
5V
12V
14V
7V
EXT SYNC
W/B SEL
GND
GND
SYNC OUT
H-BLK
V-HOLD
BOARD
A-13 9P BLK
TO V BOARD V-1
EXT R OUT
NC
EXT B OUT
GND
EXT R IN
EXT G IN
EXT B IN
W/B SEL
SUB BRT
A-14 9P BLK
TO V BOARD V-2
GND
R Ik
G Ik
B Ik
GND
9V
SW
GND
CLP PLS
Blk
Gik
Rik
GND
9V
B
G
R
GATE
A-15 10P WHT
TO C BOARD C-3
A-16 3P GRY
H. FREQ ADJ
115V
GND
7V
14V
GND
H.P
A-1 6P WHT
TO FE BOARD F-5


DY (Deflection Yoke)
H. DY
V. DY
A-18 6P WHT :DY
V+
V-
H-
H+
HVC
HVR
TO PICTURE TUBE
A-20 4P WHT
GND
ΔHV
+115V
A-19 6P WHT
TO C BOARD C-1
H2
H1
170V
900V
A-22 2P WHT
ABL JIG
T501 FBT
NL501
Q519 DTC124ES V.CENT-SW1
Q521 2SC2785 V.CENT-SW2
IC502 μPC4558C PIN-COM
PIN PHASE
V-SIZE
H-SIZE
PIN AMP
U/V-SIZE
U/H-SIZE
V-CENT
H-CENT
Q507 2SD1134C PIN-OUT
Q532 2SA1175 PIN-SW2
Q533 2SA1175 PIN-SW3
Q534 2SA1175 PIN-SW4
Q512 2SA1175 PIN-SW1
Q516 2SA1175 U/H.SIZE-SW
Q508 2SC2785 V.ZOOMING
Q514 DTC124ES U/V.SIZE-SW
Q513 DTA124ES U/S-SW
Q515 DTC124ES U/S-SW
Q522 2SC2785 BOW
Q550 2SC2785 V.ANG
V-ANG
V-BLK
DRIVE
H-FREQ
BOW
IC505 NJM7812B +12V-REG
D503 V-19E +170V-RECT
D502 V-19E +24V-RECT
D504 RGP15D +15V-RECT
D505 RGP15D +15V-RECT
Q501 2SD1397 H-OUT
D507 ERC26-15S DAMPER
Q502 2SC2688 H-DRIVE
D508 ERD28-08S PIN-DAMPER
D530 1SS83 PROTECT
D531 1SS148 PROTECT
D509 RD5.6EBZ7S HV.PROTECT1
D510 RD24EBZ7 HV.PROTECT2
Q504 2SA1175 CURR-LIM2
Q503 2SC2785 CURR-LIM1
Q505 2SC1890A HV-BUFF1
Q506 2SC2785 HV-BUFF2
D519 1SS148 H.BLK
VIDEO PHASE
115V
A
(SIGNAL, DEAL WITH DEFLECTION)

※R500 : See page 14

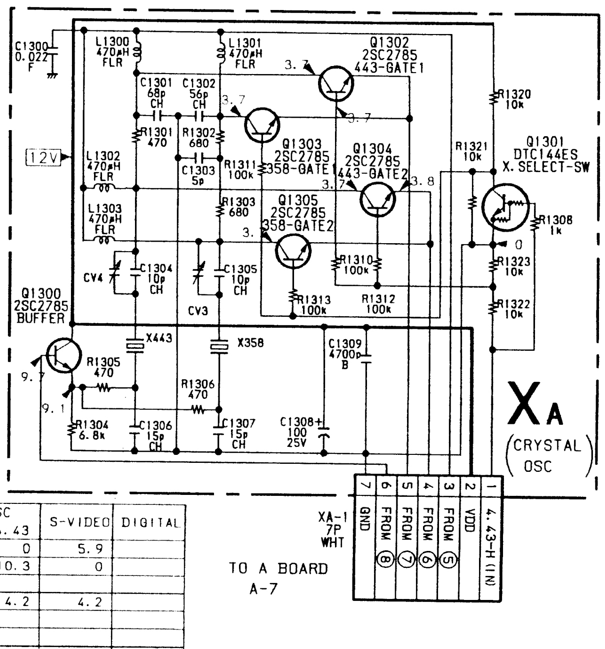

Q1500 2SC2785 V.PULSE
Q1502 DTA124ES 50/60-SW
IC1500 CX23025 50/60-SW
Q1501 2SC2785 H.PULSE
GND
VP
VDD
HP
Y (50/60 DISCRI)
Y-1 5P WHT
TO A BOARD A-17


D1400 1SS148 SYS-KIL-SW
BURST GATE
SYS KILLER
COLOR CONT
W-2 3P RED
TO A BOARD
Q1400 2SC2785 V-SYNCHRO-SW
IC1400 μPC358C KIL-INV
Q1401 2SA1175 SYS-SELEC-SW
Q1402 2SC2785 KILLER-SW
Q1403 2SC2785 COL-CONT-KIL
D1401 1SS148 KIL-IN-SW
12V
OUT
KILLER OUT
KILLER IN
GND
V-PULSE
W-1 6P WHT
TO A BOARD A-6
W
(3.58/4.43 DISCRI)

W BOARD

IC·NO	PIN·NO	PAL	SECAM	NTSC 3.58	NTSC 4.43
IC1400	①	0.6	11.0	11.0	0.6
	②	8.3	2.2	2.2	8.4
	⑤	8.2	3.8-7.1		8.3
	⑦	10.9			10.9

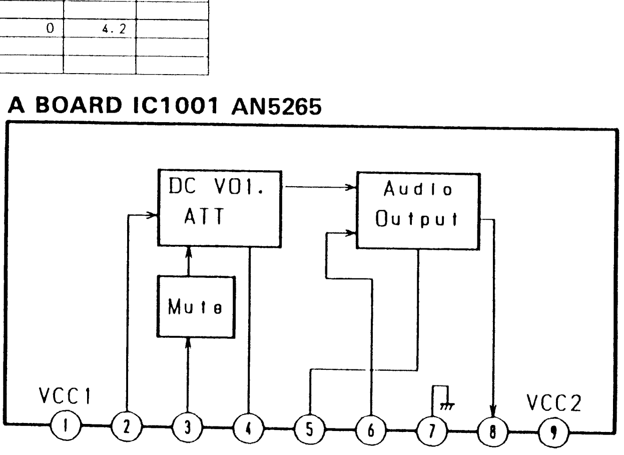
Q NO.		PAL	SECAM	NTSC 3.58	NTSC 4.43
Q1400	B				
	C				
	E	6.0	6.0	6.1	
Q1401	B	5.4	10.9	10.9	5.4
	C	6.0	4.5-7.3	4.5-7.3	6.0
	E				
Q1403	B				
	C	7.0	6.8	5.9	5.8
	E				

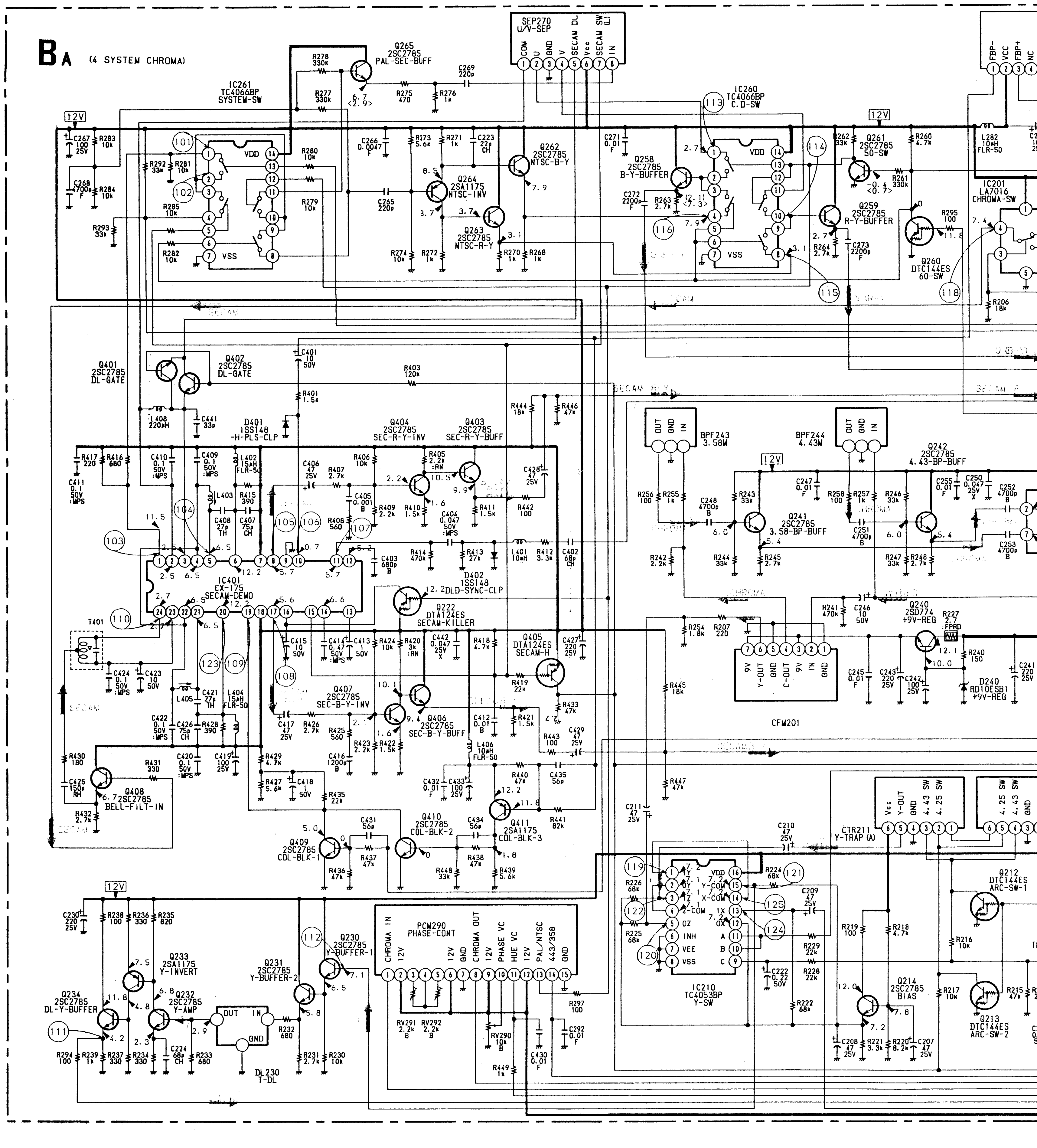

Q1302 2SC2785 443-GATE1
Q1303 2SC2785 358-GATE1
Q1304 2SC2785 443-GATE2
Q1305 2SC2785 358-GATE2
Q1301 DTC144ES X.SELECT-SW
Q1300 2SC2785 BUFFER
X443
X358
12V
XA (CRYSTAL OSC)
GND
FROM ⑧
FROM ⑦
FROM ⑥
FROM ⑤
VDD
4.43-H(IN)
XA-1 7P WHT
TO A BOARD A-7

XA BOARD

Q NO.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
Q1301	B	0			0	5.9	
	C	10.3			10.3	0	
	E						
Q1302	B	4.2			4.2	4.2	
	C						
	E						
Q1304	B	4.1			3.9	0	
	C						
	E						
Q1305	B	0			0	4.2	
	C						
	E						

A BOARD IC1001 AN5265

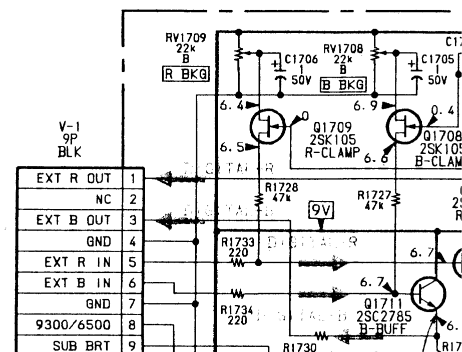

DC VOl. ATT
Audio Output
Mute
VCC1
VCC2
1
2
3
4
5
6
7
8
9

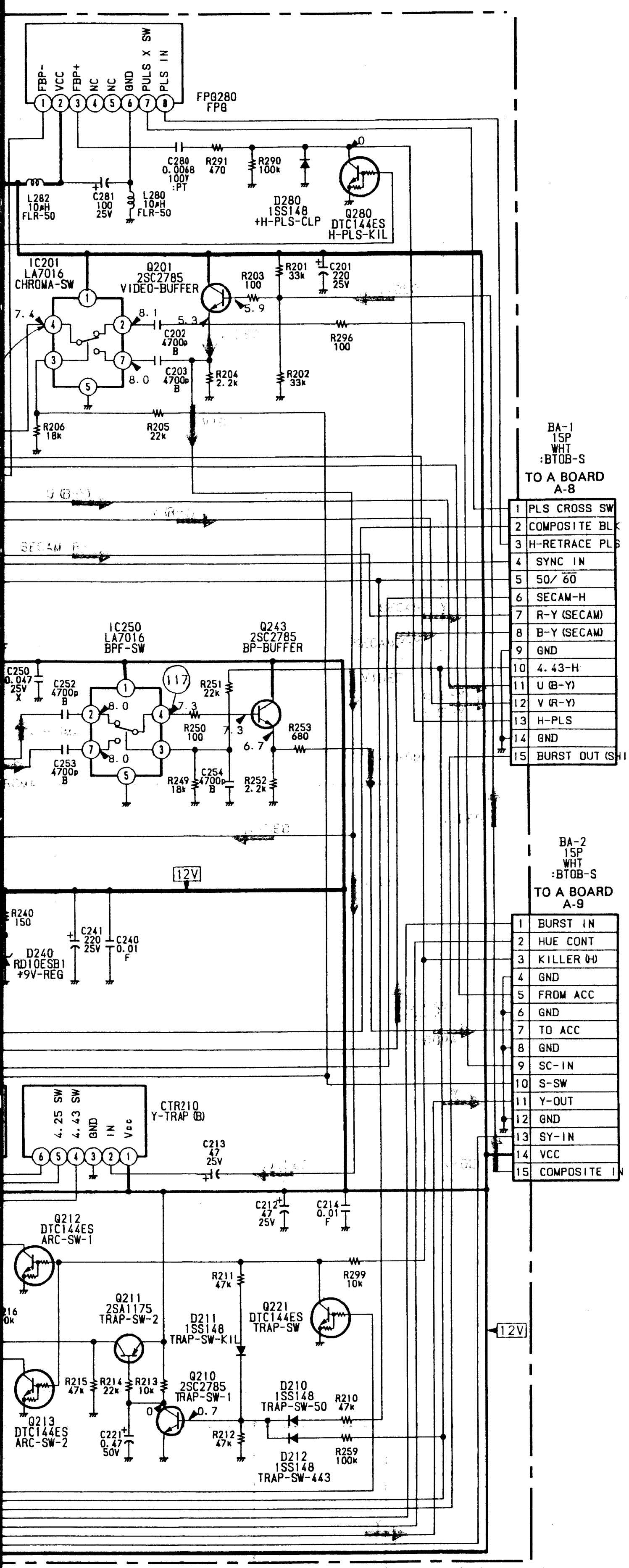

BA (4 SYSTEM CHROMA)
IC261 TC4066BP SYSTEM-SW
Q265 2SC2785 PAL-SEC-BUFF
SEP270 U/V-SEP
IC260 TC4066BP C.D-SW
Q261 2SC2785 50-SW
IC201 LA7016 CHROMA-SW
Q262 2SC2785 NTSC-B-Y
Q264 2SA1175 NTSC-INV
Q263 2SC2785 NTSC-R-Y
Q258 2SC2785 B-Y-BUFFER
Q259 2SC2785 R-Y-BUFFER
Q260 DTC144ES 60-SW
Q401 2SC2785 DL-GATE
Q402 2SC2785 DL-GATE
D401 1SS148 -H-PLS-CLP
Q404 2SC2785 SEC-R-Y-INV
Q403 2SC2785 SEC-R-Y-BUFF
IC401 CX-175 SECAM-DEMO
D402 1SS148 DLD-SYNC-CLP
Q222 DTA124ES SECAM-KILLER
Q405 DTA124ES SECAM-H
Q407 2SC2785 SEC-B-Y-INV
Q406 2SC2785 SEC-B-Y-BUFF
Q408 2SC2785 BELL-FILT-IN
Q409 2SC2785 COL-BLK-1
Q410 2SC2785 COL-BLK-2
Q411 2SA1175 COL-BLK-3
BPF243 3.58M
BPF244 4.43M
Q241 2SC2785 3.58-BP-BUFF
Q242 2SC2785 4.43-BP-BUFF
Q240 2SD774 +9V-REG
D240 RD10ESB1 +9V-REG
CFM201
CTR211 Y-TRAP (A)
IC210 TC4053BP Y-SW
Q212 DTC144ES ARC-SW-1
Q213 DTC144ES ARC-SW-2
Q214 2SC2785 BIAS
PCM290 PHASE-CONT
Q230 2SC2785 Y-BUFFER-1
Q231 2SC2785 Y-BUFFER-2
Q232 2SC2785 Y-AMP
Q233 2SA1175 Y-INVERT
Q234 2SC2785 DL-Y-BUFFER
DL230 T-DL

BA BOARD

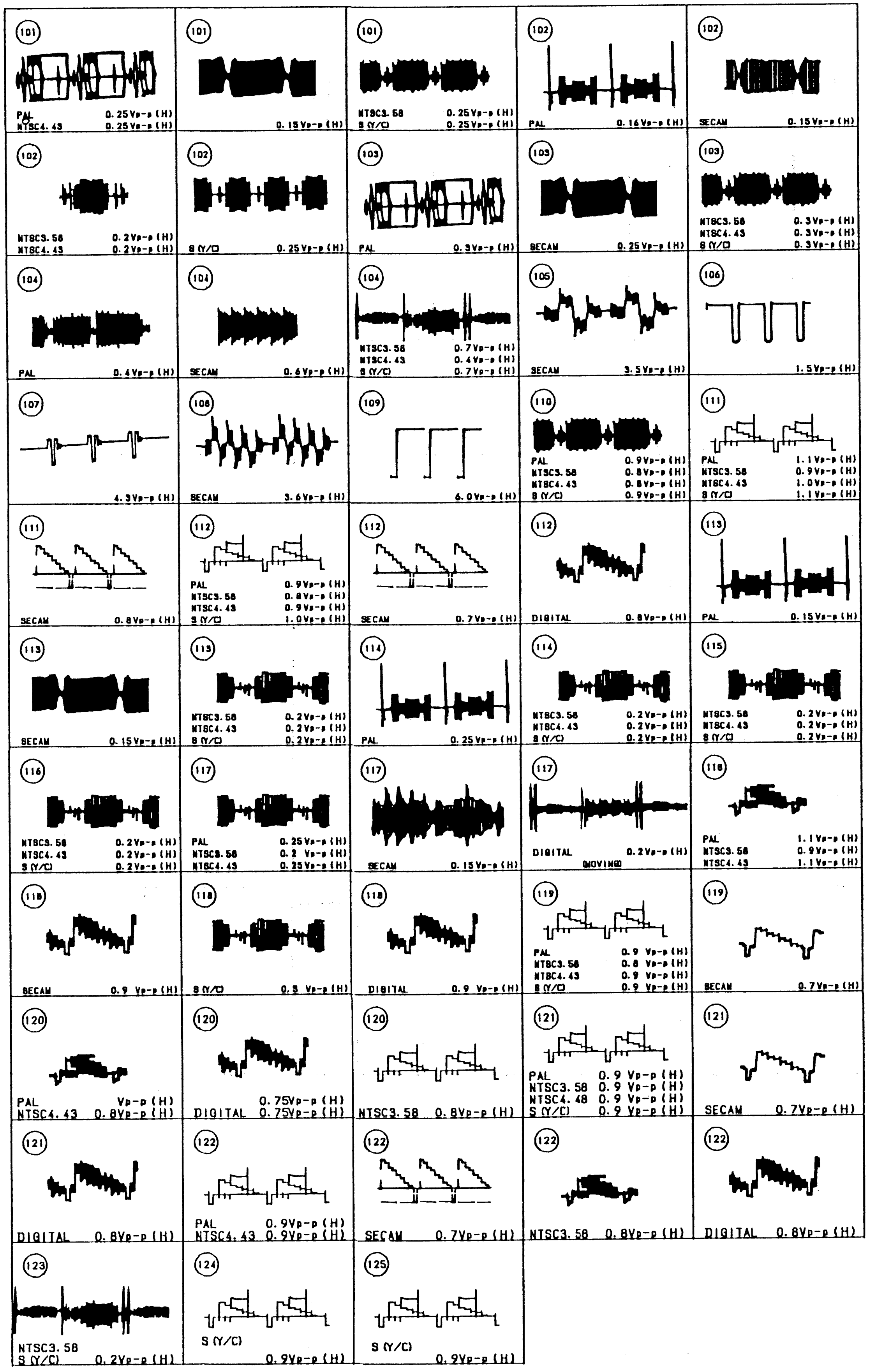
IC·NO	PIN·NO	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
IC201	③	0	0	0	0	4.9	0.5
IC210	⑨	12.2	12.2	0	12.2	0	12.2
	⑩	0	0	0	10.0	11.0	1.1
	⑪	0	0	0	10.0	11.0	1.1
IC250	③	4.7	0.8-1.6	0	4.8	0	
IC260	②	2.6	2.7	7.9	7.9	7.9	7.9
	⑤	0	0	10.9	10.9	10.9	10.9
	⑨⑩⑪	3.3	3.4	3.1	3.1	3.3	3.1
	⑫⑬	12.2	12.2	0	0	0	0
IC261	①	10.8	10.8	10.8	10.8	10.8	8.4
	②③	7.3	10.8	7.3	7.4	7.3	8.2
	④	7.3	7.3	7.3	7.3	7.3	8.0
	⑤	10.8	0	10.8	10.8	10.9	10.9
	⑥	0	0	10.9	10.9	10.9	10.9
	⑧	5.9	6.0	7.3	7.3	7.3	8.2
	⑨⑩	7.3	10.8	7.3	7.3	7.3	8.2
	⑪	7.3	10.8	3.4	3.5	3.4	3.4
	⑫	12.2	12.2	0	0	0	0
	⑬	0.5	10.5	0.5	0.5	0.5	10.8
IC401	⑬	6.0	6.0	6.0	6.0	4.7	4.7
	⑮	10.8	0	10.8	10.8		
	⑯	7.6	6.9	12.2	12.2	12.2	12.2

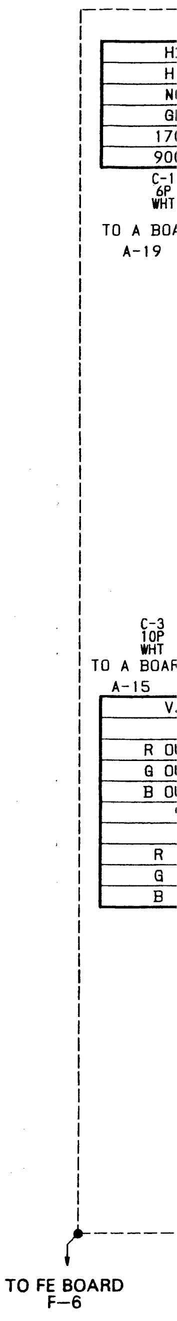
Q NO.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
Q211	B	11.6	11.6	12.2	11.6		
	C	12.2	12.2	0	12.2		
	E						
Q212	B	0.5	0	0.5	11.5		
	C	5.5	5.5	0	5.5		
	E						
Q213	B	0.5	0	0.5	11.5		
	C	0	5.9	0	0		
	E						
Q221	B	0	12.2	0	0		0
	C	0.5	0	0.5	0.5	0.5	6.9
	E						
Q222	B						
	C	7.6	6.9	12.2	12.7	12.2	12.2
	E						
Q258	B	2.6	2.7	7.9	7.9	7.9	7.9
	C						
	E						
Q259	B	3.3	3.4	3.1	3.1	3.3	3.1
	C						
	E						
Q261	B						
	C	12.2	3.4	3.1	3.1	3.3	3.1
	E						
Q280	B	0	0	10.9	10.9		
	C						
	E						
Q401	B						
	C						
	E	0	2.6	0			
Q402	B	0	3.1	0			
	C						
	E						
Q405	B	11.3	6.1	11.3	11.3		
	C	0	12.2	0	0		
	E						
Q408	B	7.3	0	7.3	7.3		
	C						
	E						


V-1 9P BLK
EXT R OUT
NC
EXT B OUT
GND
EXT R IN
EXT B IN
GND
9300/6500
SUB BRT
TO A BOARD A-13
RV1709 R BKG
RV1708 B BKG
Q1709 2SK105 R-CLAMP
Q1711 2SC2785 B-BUFF
RV1710 SUB BRT
V (WHITE BALANCE)

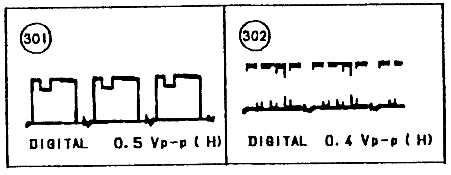

FBP-
VCC
FBP+
NC
NC
GND
PULS X SW
PLS IN
FPG280
FPB
C280 0.0068 100V :PT
R291 470
R290 100k
D280 1SS148 +H-PLS-CLP
Q280 DTC144ES H-PLS-KIL
L282 10μH FLR-50
C281 100 25V
L280 10μH FLR-50
IC201 LA7016 CHROMA-SW
Q201 2SC2785 VIDEO-BUFFER
R203 100
R201 33k
C201 220 25V
C202 4700p B
C203 4700p B
R204 2.2k
R202 33k
R296 100
R206 18k
R205 22k
BA-1 15P WHT :BTOB-S TO A BOARD A-8
1 PLS CROSS SW
2 COMPOSITE BLK
3 H-RETRACE PLS
4 SYNC IN
5 50/60
6 SECAM-H
7 R-Y (SECAM)
8 B-Y (SECAM)
9 GND
10 4.43-H
11 U (B-Y)
12 V (R-Y)
13 H-PLS
14 GND
15 BURST OUT (SHIFTED)
IC250 LA7016 BPF-SW
Q243 2SC2785 BP-BUFFER
C250 0.047 25V
C252 4700p B
R251 22k
R250 100
R253 680
C253 4700p B
R249 18k
C254 4700p B
R252 2.2k
12V
R240 150
C241 220 25V
C240 0.01 F
D240 RD10ESB1 +9V-REG
BA-2 15P WHT :BTOB-S TO A BOARD A-9
1 BURST IN
2 HUE CONT
3 KILLER (H)
4 GND
5 FROM ACC
6 GND
7 TO ACC
8 GND
9 SC-IN
10 S-SW
11 Y-OUT
12 GND
13 SY-IN
14 VCC
15 COMPOSITE IN
4.25 SW
4.43 SW
GND
IN
Vcc
CTR210 Y-TRAP (B)
C213 47 25V
C212 47 25V
C214 0.01 F
Q212 DTC144ES ARC-SW-1
R211 47k
R299 10k
Q211 2SA1175 TRAP-SW-2
D211 1SS148 TRAP-SW-KIL
Q221 DTC144ES TRAP-SW
12V
R215 47k
R214 22k
R213 10k
Q210 2SC2785 TRAP-SW-1
D210 1SS148 TRAP-SW-50
R210 47k
Q213 DTC144ES ARC-SW-2
C221 0.47 50V
R212 47k
D212 1SS148 TRAP-SW-443
R259 100k

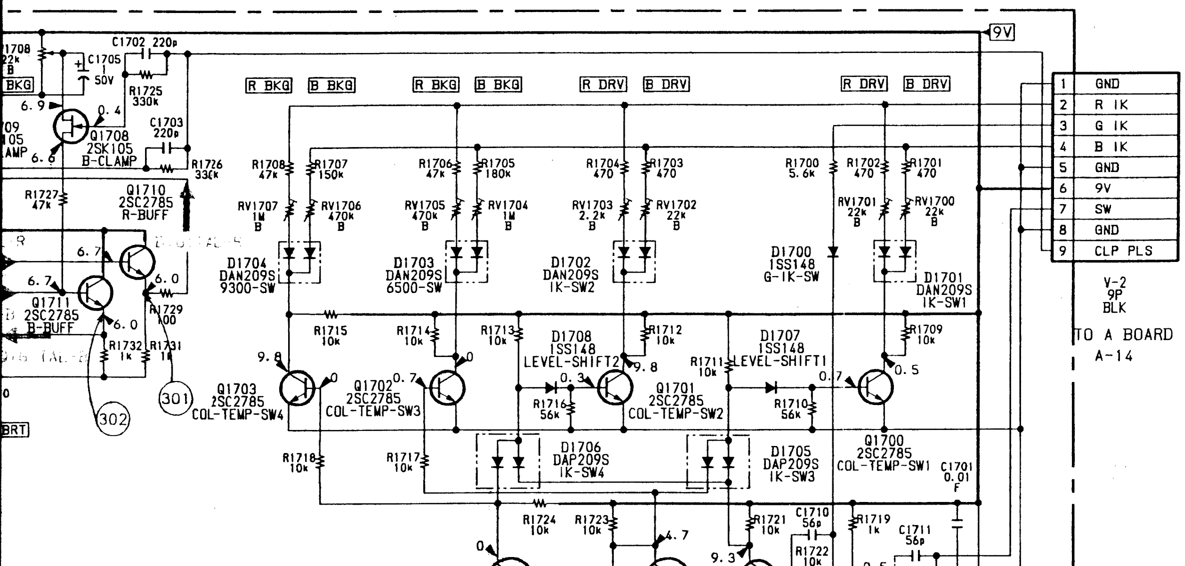
BA BOARD WAVEFORM



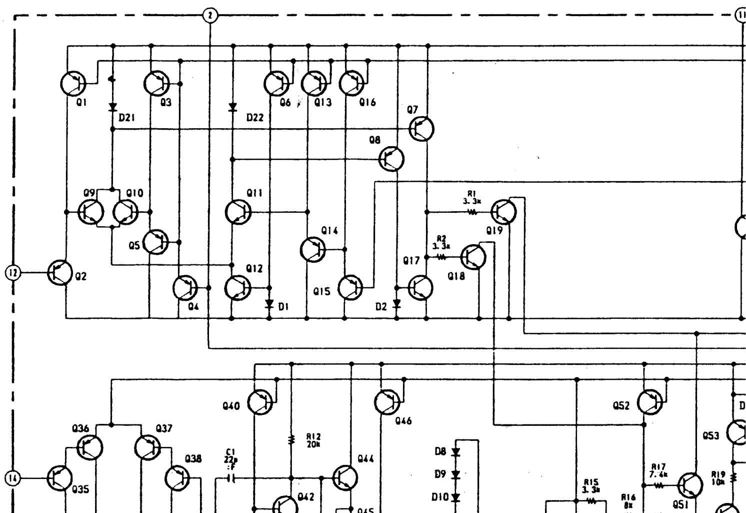

C-1 6P WHT
TO A BOA
A-19
C-3 10P WHT
TO A BOAR
A-15
R
G
B
TO FE BOARD F-6

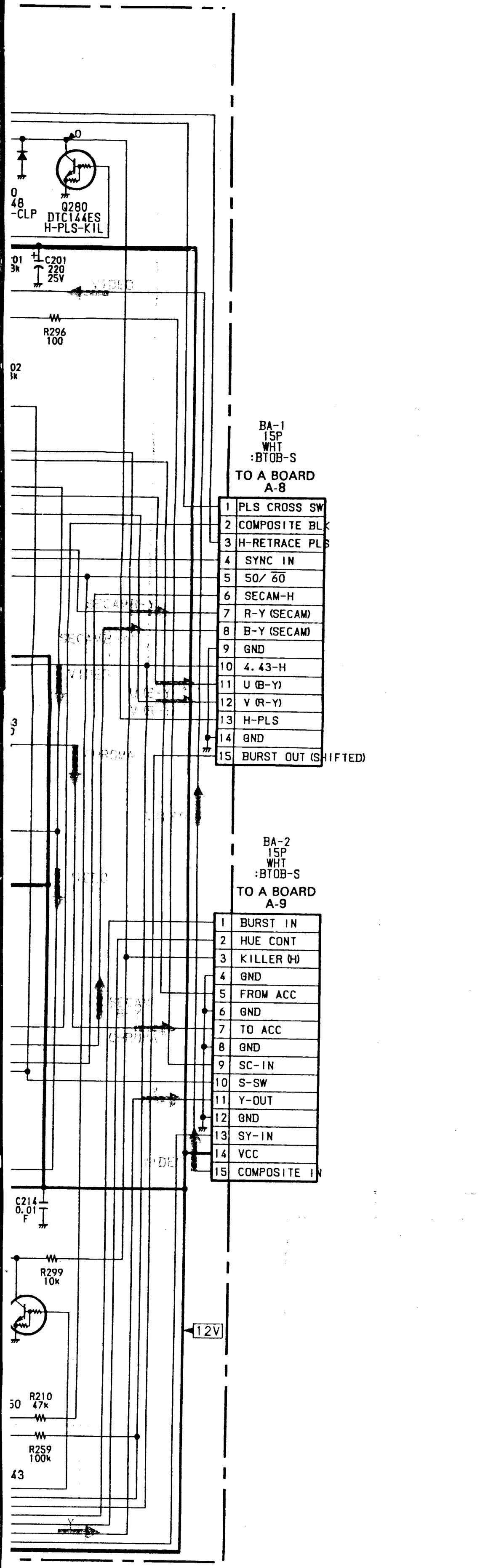
V BOARD WAVEFORM



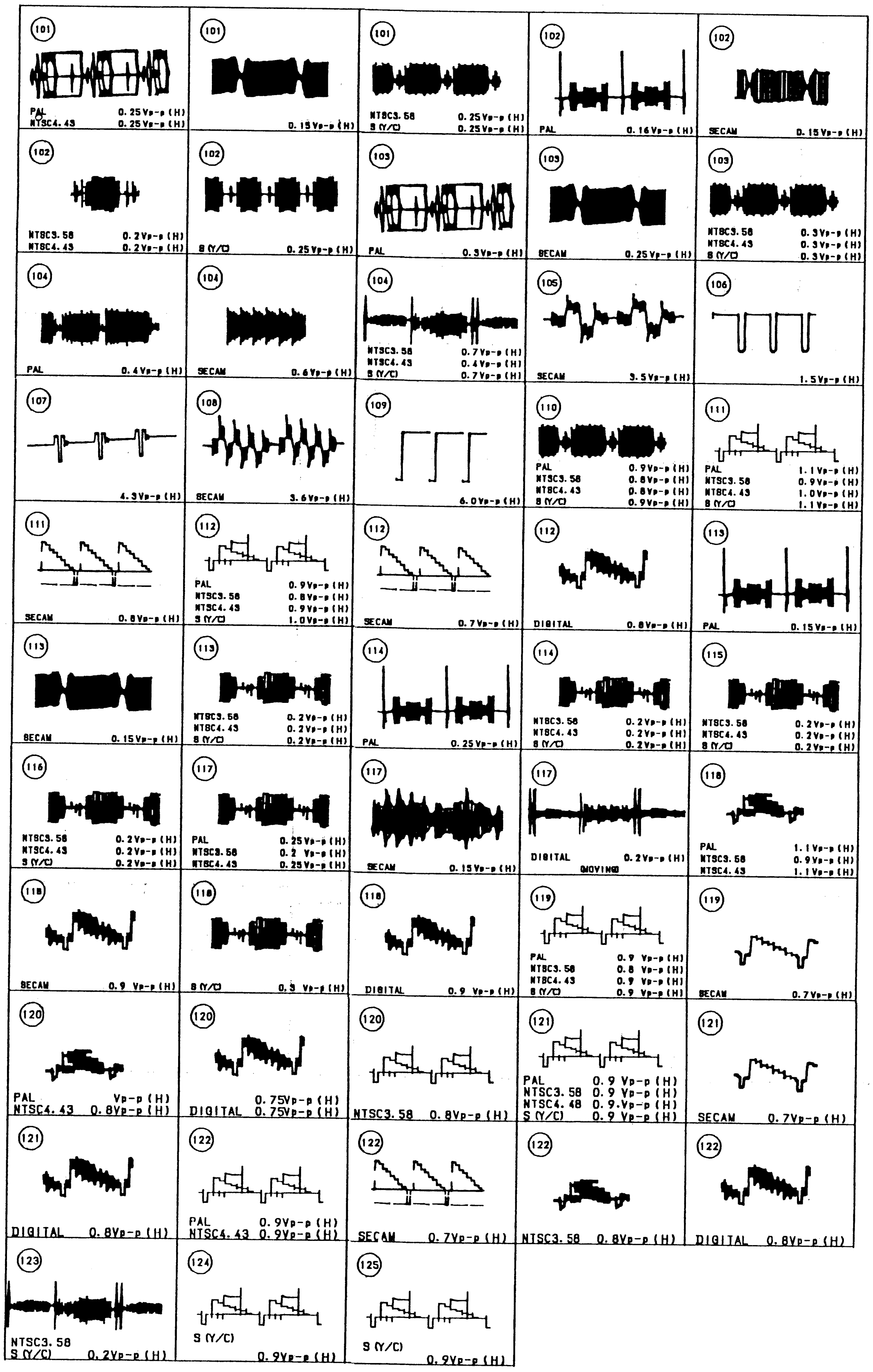

9V
C1702 220p
C1705 1 50V
R1725 330k
C1703 220p
Q1708 2SK105 B-CLAMP
R1726 330k
R BKG
B BKG
R DRV
B DRV
R1708 47k
R1707 150k
R1706 47k
R1705 180k
R1704 470
R1703 470
R1700 5.6k
R1702 470
R1701 470
RV1707 1M B
RV1706 470k B
RV1705 470k B
RV1704 1M B
RV1703 2.2k B
RV1702 22k B
RV1701 22k B
RV1700 22k B
R1727 47k
Q1710 2SC2785 R-BUFF
D1704 DAN209S 9300-SW
D1703 DAN209S 6500-SW
D1702 DAN209S IK-SW2
D1700 1SS148 G-IK-SW
D1701 DAN209S IK-SW1
Q1711 2SC2785 B-BUFF
R1729 100
R1732
R1731
R1715 10k
R1714 10k
R1713 10k
D1708 1SS148 LEVEL-SHIFT2
R1712 10k
D1707 1SS148 LEVEL-SHIFT1
R1711 10k
R1709 10k
Q1703 2SC2785 COL-TEMP-SW4
Q1702 2SC2785 COL-TEMP-SW3
Q1701 2SC2785 COL-TEMP-SW2
R1716 56k
R1710 56k
Q1700 2SC2785 COL-TEMP-SW1
R1718 10k
R1717 10k
D1706 DAP209S IK-SW4
D1705 DAP209S IK-SW3
C1701 0.01 F
R1724 10k
R1723 10k
R1721 10k
C1710 56p
R1719 1k
C1711 56p
R1722 10k
R1720 10k
R1750 3.3k
C1700 220 25V
Q1707 DTC144ES COL-TEMP-SW6
Q1706 DTC144ES COL-TEMP-SW5
Q1705 2SC2785 IK-SW2
Q1704 2SC2785 IK-SW1
301
302
TE BALANCE)
1 GND
2 R IK
3 G IK
4 B IK
5 GND
6 9V
7 SW
8 GND
9 CLP PLS
V-2 9P BLK
TO A BOARD A-14

FE BOARD IC601 μPC1394C

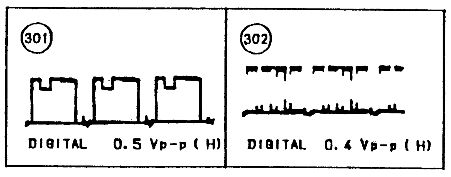

Q1
D21
Q3
D22
Q6
Q13
Q16
Q7
Q8
Q9
Q10
Q11
Q5
Q14
Q2
Q12
Q4
D1
Q15
D2
Q17
Q18
R1 3.3k
R2 3.3k
Q19
Q40
Q36
Q37
Q38
C1 22p
R12 20k
Q44
Q46
D8
D9
D10
Q52
Q53
Q35
Q42
Q45
R17 7.4k
Q39
Q41
Q43
D7
Q47
R13
R11 504
R14 330
Q48
Q49
R15 3.3k
R16 8k
R18 2.4k
Q50
Q51
Q54
D6

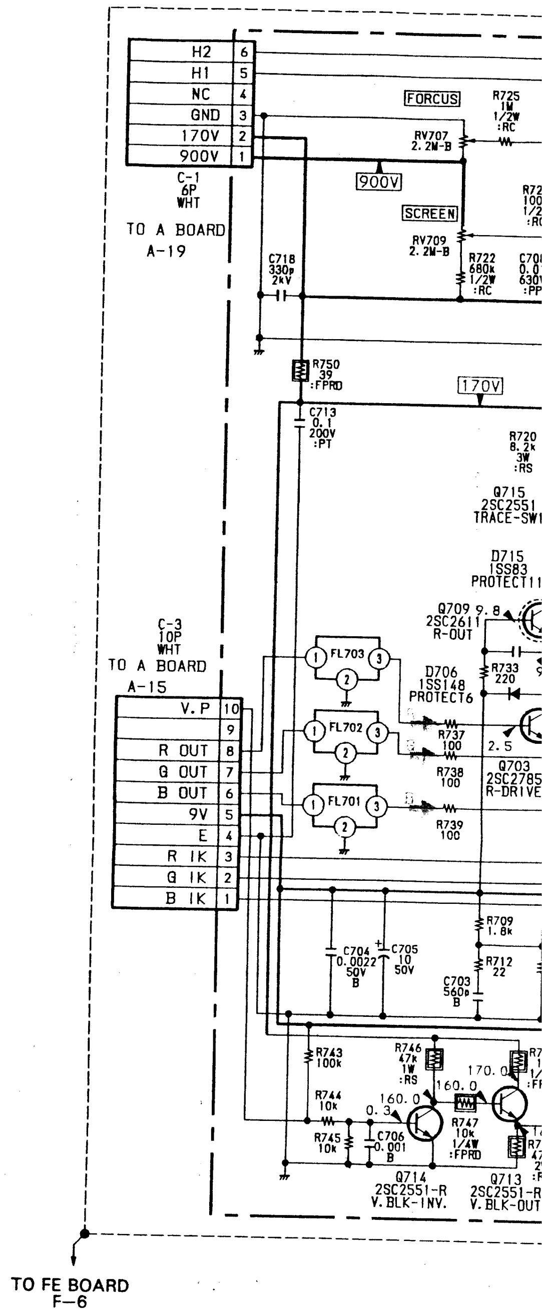

Q280
DTC144ES
H-PLS-KIL
C201
220
25V
R296
100
BA-1
15P
WHT
:BTOB-S
TO A BOARD
A-8
1 PLS CROSS SW
2 COMPOSITE BLK
3 H-RETRACE PLS
4 SYNC IN
5 50/60
6 SECAM-H
7 R-Y (SECAM)
8 B-Y (SECAM)
9 GND
10 4.43-H
11 U (B-Y)
12 V (R-Y)
13 H-PLS
14 GND
15 BURST OUT (SHIFTED)
BA-2
15P
WHT
:BTOB-S
TO A BOARD
A-9
1 BURST IN
2 HUE CONT
3 KILLER (H)
4 GND
5 FROM ACC
6 GND
7 TO ACC
8 GND
9 SC-IN
10 S-SW
11 Y-OUT
12 GND
13 SY-IN
14 VCC
15 COMPOSITE IN
C214
0.01
F
R299
10k
12V
R210
47k
R259
100k

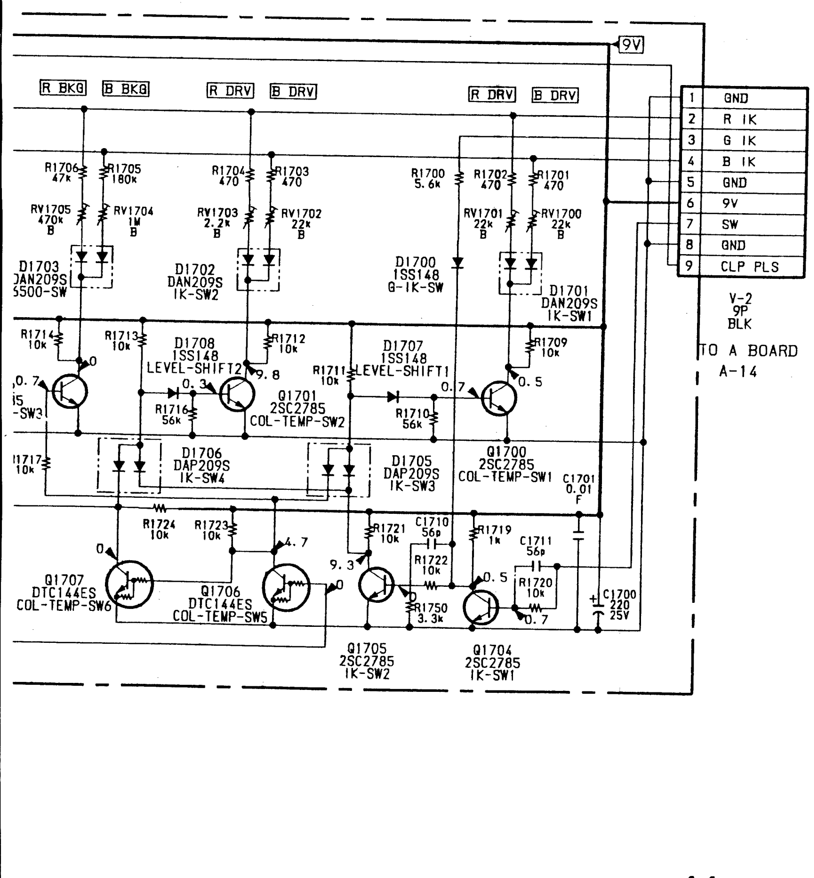
BA BOARD WAVEFORM



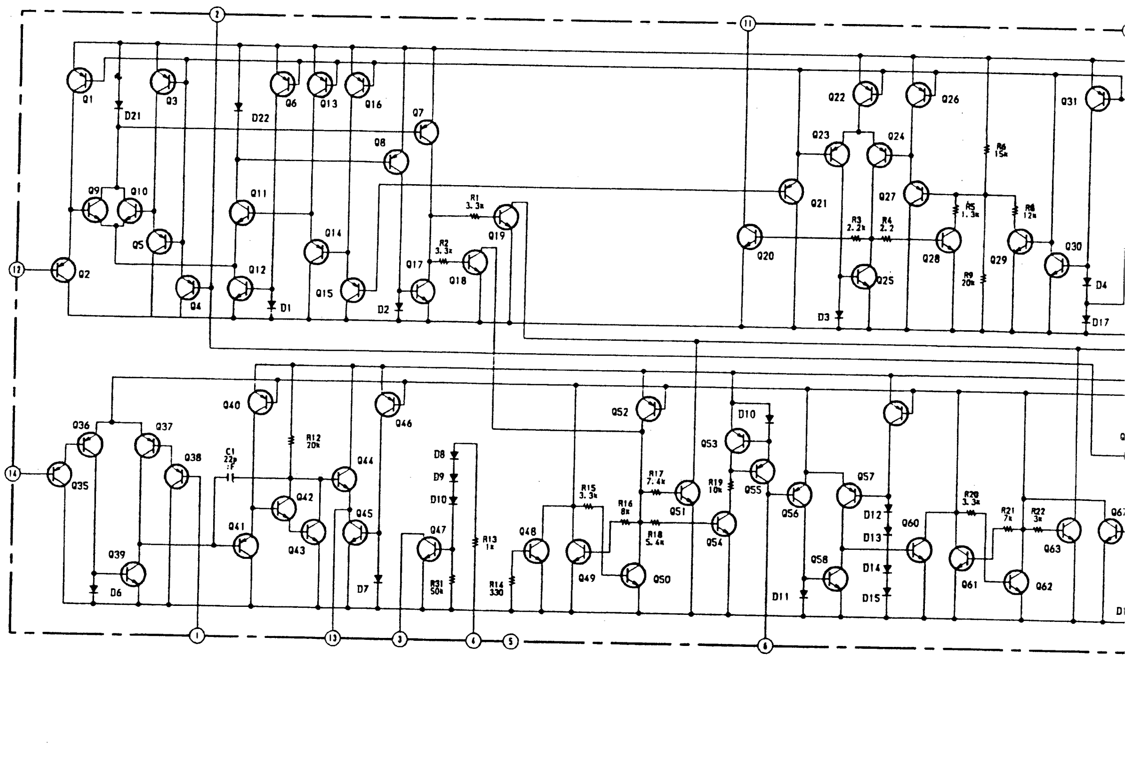
V BOARD WAVEFORM

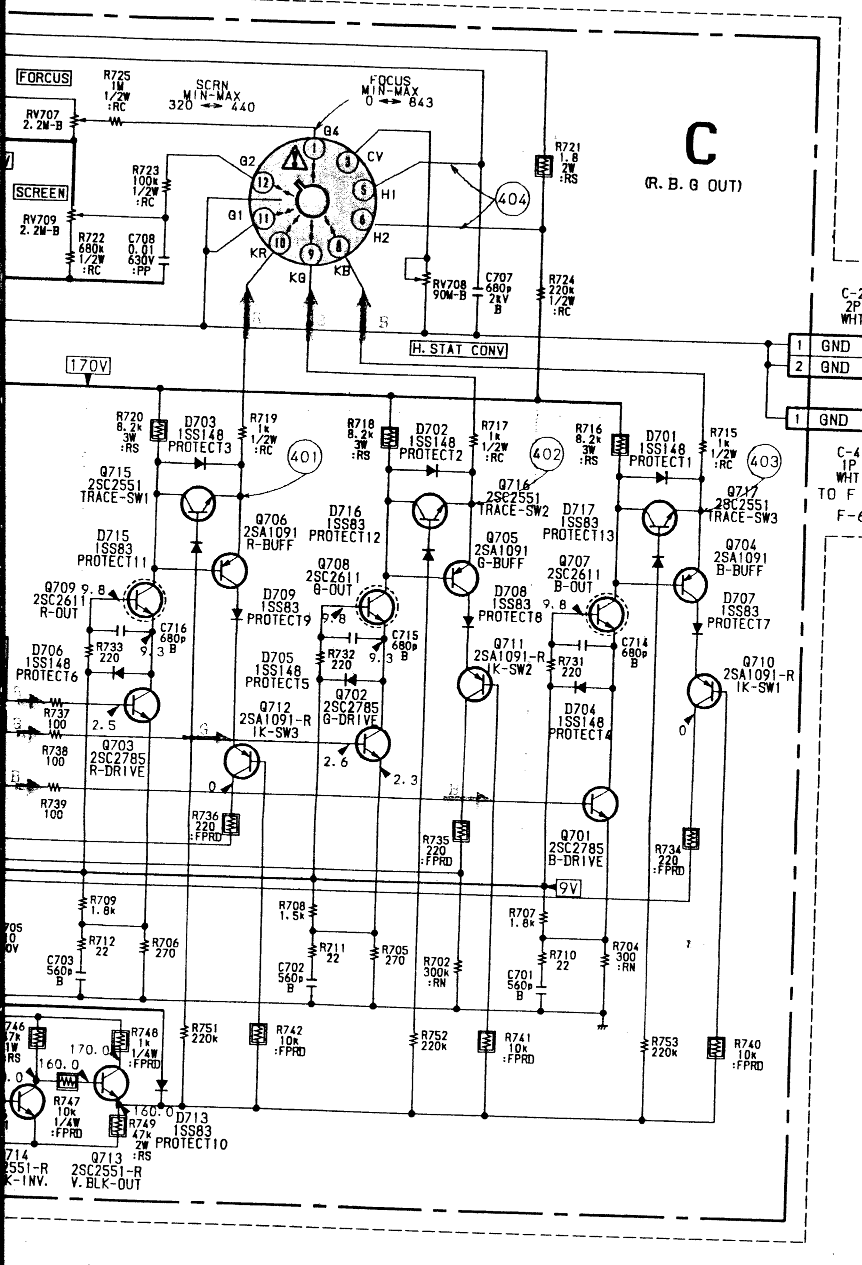


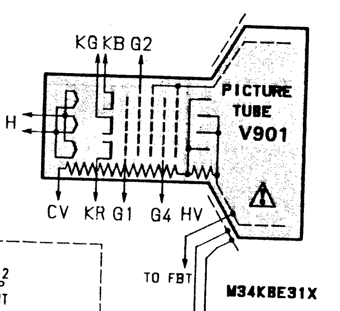

H2 6
H1 5
NC 4
GND 3
170V 2
900V 1
C-1
6P
WHT
TO A BOARD
A-19
FORCUS
RV707
2.2M-B
900V
SCREEN
RV709
2.2M-B
C718
330p
2kV
R750
39
:FPRD
C713
0.1
200V
:PT
170V
R720
8.2k
3W
:RS
Q715
2SC2551
TRACE-SW1
D715
1SS83
PROTECT11
C-3
10P
WHT
TO A BOARD
A-15
V.P 10
9
R OUT 8
G OUT 7
B OUT 6
9V 5
E 4
R IK 3
G IK 2
B IK 1
FL703
FL702
FL701
D706
1SS148
PROTECT6
Q709
2SC2611
R-OUT
R733
220
R737
100
R738
100
R739
100
Q703
2SC2785
R-DRIVE
C704
0.0022
50V
B
C705
10
50V
C703
560p
B
R709
1.8k
R712
22
R743
100k
R744
10k
R745
10k
R746
47k
1W
:RS
C706
0.001
B
R747
10k
1/4W
:FPRD
Q714
2SC2551-R
V.BLK-INV.
Q713
2SC2551-R
V.BLK-OUT
TO FE BOARD
F-6


9V
R BKG
B BKG
R DRV
B DRV
R DRV
B DRV
1 GND
2 R IK
3 G IK
4 B IK
5 GND
6 9V
7 SW
8 GND
9 CLP PLS
V-2
9P
BLK
TO A BOARD
A-14
R1706 47k
R1705 180k
R1704 470
R1703 470
R1700 5.6k
R1702 470
R1701 470
RV1705 470k B
RV1704 1M B
RV1703 2.2k B
RV1702 22k B
RV1701 22k B
RV1700 22k B
D1703 DAN209S 5500-SW
D1702 DAN209S IK-SW2
D1700 1SS148 G-IK-SW
D1701 DAN209S IK-SW1
D1708 1SS148 LEVEL-SHIFT2
D1707 1SS148 LEVEL-SHIFT1
Q1701 2SC2785 COL-TEMP-SW2
Q1700 2SC2785 COL-TEMP-SW1
D1706 DAP209S IK-SW4
D1705 DAP209S IK-SW3
Q1707 DTC144ES COL-TEMP-SW6
Q1706 DTC144ES COL-TEMP-SW5
Q1705 2SC2785 IK-SW2
Q1704 2SC2785 IK-SW1
C1710 56p
C1711 56p
C1701 0.01 F
C1700 220 25V
R1750 3.3k

FE BOARD IC601 μPC1394C



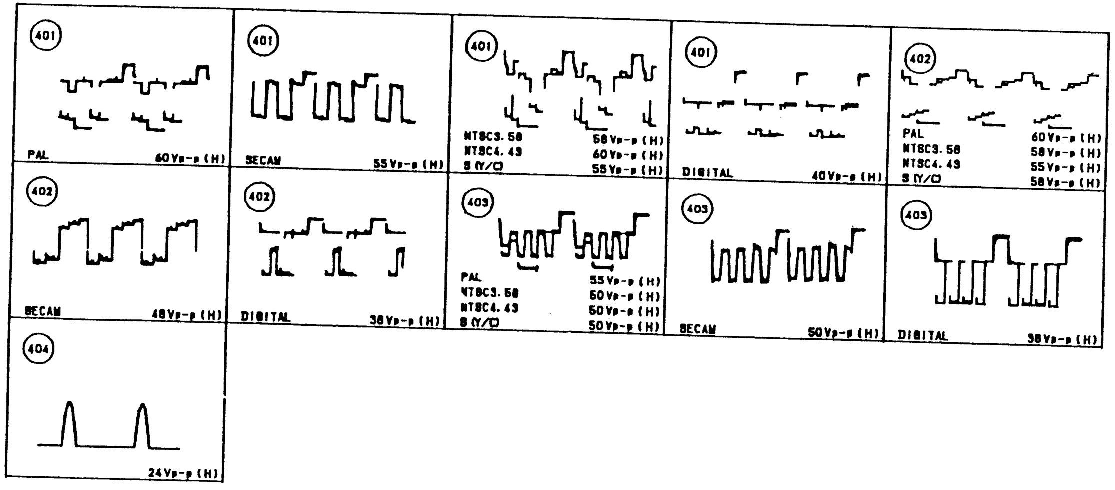

FORCUS
SCREEN
RV707 2.2M-B
RV709 2.2M-B
SCRN MIN-MAX 320 ↔ 440
FOCUS MIN-MAX 0 ↔ 843
C
(R. B. G OUT)
H. STAT CONV
170V
9V
Q715 2SC2551 TRACE-SW1
Q716 2SC2551 TRACE-SW2
Q717 2SC2551 TRACE-SW3
Q706 2SA1091 R-BUFF
Q705 2SA1091 G-BUFF
Q704 2SA1091 B-BUFF
Q709 2SC2611 R-OUT
Q708 2SC2611 G-OUT
Q707 2SC2611 B-OUT
Q703 2SC2785 R-DRIVE
Q702 2SC2785 G-DRIVE
Q701 2SC2785 B-DRIVE
Q712 2SA1091-R IK-SW3
Q711 2SA1091-R IK-SW2
Q710 2SA1091-R IK-SW1
Q713 2SC2551-R V.BLK-OUT
D703 1SS148 PROTECT3
D702 1SS148 PROTECT2
D701 1SS148 PROTECT1
D716 1SS83 PROTECT12
D717 1SS83 PROTECT13
D715 1SS83 PROTECT11
D709 1SS83 PROTECT9
D708 1SS83 PROTECT8
D707 1SS83 PROTECT7
D706 1SS148 PROTECT6
D705 1SS148 PROTECT5
D704 1SS148 PROTECT4
D713 1SS83 PROTECT10
401
402
403
404

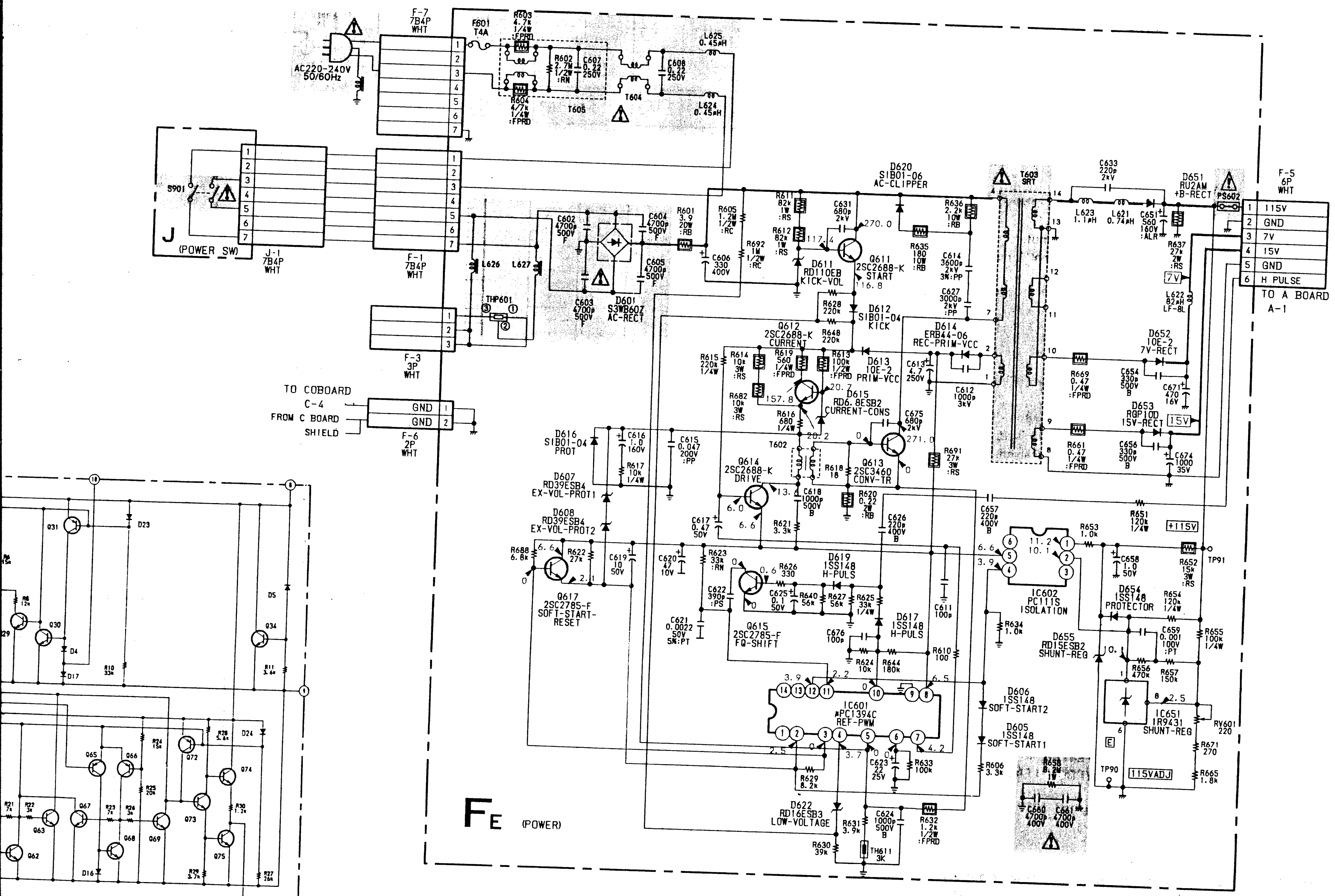

KG KB G2
H
PICTURE TUBE
V901
CV KR G1 G4 HV
TO FBT
M34KBE31X
C-2 2P WHT
GND
GND
C-4 1P WHT
TO F BOARD F-6

C BOARD

Q NO.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
Q704	B	154.5	154.5	153.9	154.0	147.2	153.5
	C	132.1	132.5	129.4	131.3		
	E	150.6	151.4	150.7	151.1	145.9	150.9
Q705	B	154.3	151.7	154.0	153.0		
	C	132.0	127.6	127.6	127.6		
	E	153.1	149.6	151.7	151.7	150.0	155.4
Q706	B	141.6	140.4	140.7	140.8	149.2	154.4
	C						
	E	139.7	138.0	138.0	138.2	147.9	151.6
Q707	B	141.6	140.4	140.7	140.8	149.2	154.4
	C	154.5	154.5	153.9	154.0	147.2	153.5
	E						
Q708	B						
	C	154.3	151.7	154.0	154.0		
	E						
Q709	B						
	C	141.6	140.4	140.7	140.8	149.2	154.4
	E						
Q710	B						
	C						
	E	153.5	151.4	151.0	151.0		
Q711	B	160.5	160.5	158.4	158.4		
	C						
	E	151.4	148.9	150.2	150.2		
Q712	B	160.4	160.3	158.4	158.4		
	C						
	E	148.0	146.7	145.8	147.0		
Q715	B	142.0	137.7	137.3	138.3	147.3	152.1
	C	141.6	140.4	140.7	140.8	149.2	154.4
	E	139.7	138.0	138.0	138.2	147.9	151.6
Q716	B	154.3	151.7	154.0	154.0	156.0	156.0
	C	151.0	152.9	149.0	150.9	149.3	155.3
	E	153.1	149.6	151.7	151.7	150.0	155.4
Q717	B	150.3	150.8	149.7	150.7	145.8	150.9
	C	154.5	154.5	153.9		147.2	153.5
	E	150.6	151.4	150.7	151.1	145.9	150.9

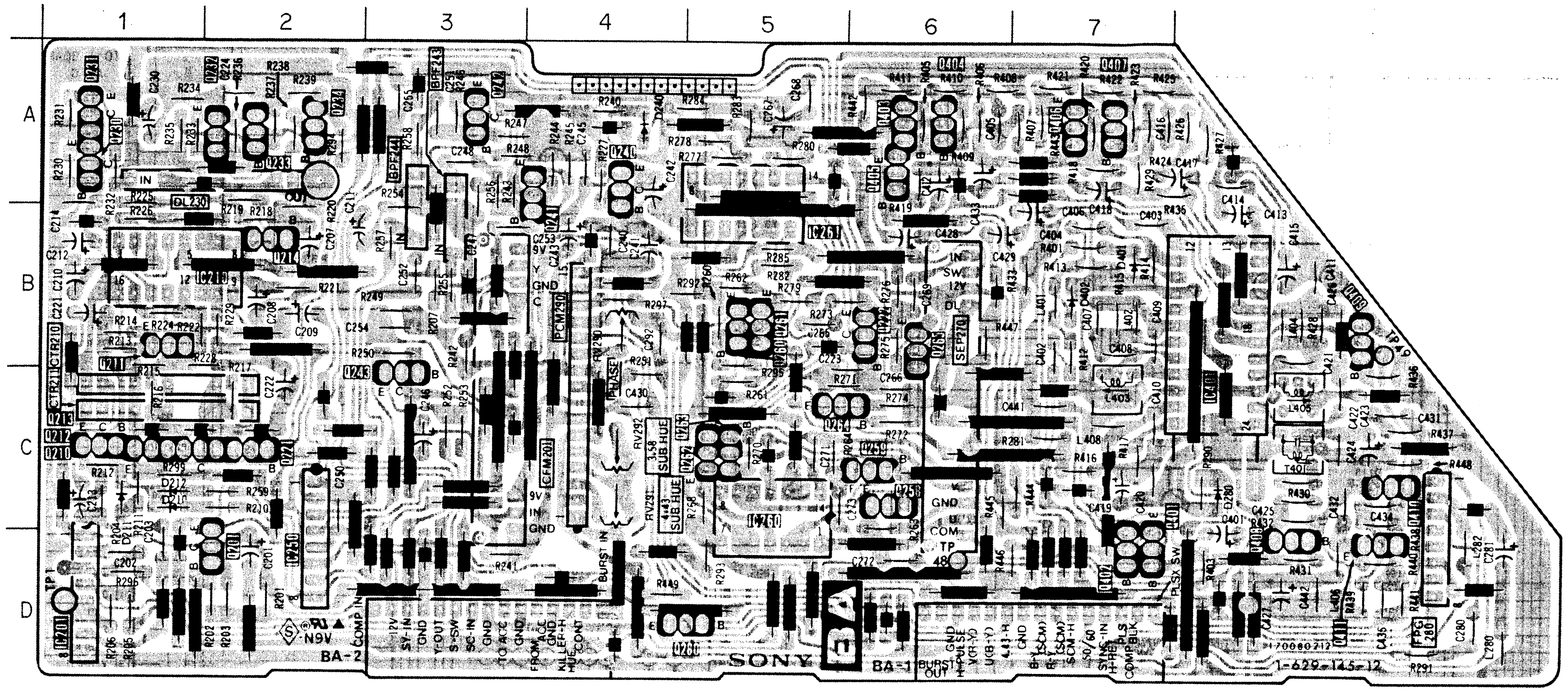
C BOARD WAVEFORM




AC220-240V 50/60Hz
F-7 7B4P WHT
F601 T4A
T605
T604
L625 0.45μH
L624 0.45μH
S901
J
(POWER SW)
J-1 7B4P WHT
F-1 7B4P WHT
L626
L627
THP601
F-3 3P WHT
TO COBOARD C-4
FROM C BOARD
SHIELD
GND
GND
F-6 2P WHT
D601 S3WB60Z AC-RECT
D620 S1B01-06 AC-CLIPPER
Q611 2SC2688-K START
D611 RD11OEB KICK-VOL
D612 S1B01-04 KICK
Q612 2SC2688-K CURRENT
D613 10E-2 PRIM-VCC
D614 ERB44-06 REC-PRIM-VCC
D615 RD6.8ESB2 CURRENT-CONS
Q613 2SC3460 CONV-TR
Q614 2SC2688-K DRIVE
T602
T603 SRT
D651 RU2AM +B-RECT
PS602
D652 10E-2 7V-RECT
D653 RGP10D 15V-RECT
7V
15V
F-5 6P WHT
115V
GND
7V
15V
GND
H PULSE
TO A BOARD A-1
D616 S1B01-04 PROT
D607 RD39ESB4 EX-VOL-PROT1
D608 RD39ESB4 EX-VOL-PROT2
Q617 2SC2785-F SOFT-START-RESET
D619 1SS148 H-PULS
Q615 2SC2785-F FQ-SHIFT
D617 1SS148 H-PULS
IC601 μPC1394C REF-PWM
D622 RD16ESB3 LOW-VOLTAGE
TH611 3K
IC602 PC111S ISOLATION
D654 1SS148 PROTECTOR
D655 RD15ESB2 SHUNT-REG
D606 1SS148 SOFT-START2
D605 1SS148 SOFT-START1
IC651 IR9431 SHUNT-REG
RV601 220
+115V
115VADJ
TP90
TP91
FE (POWER)

BA [CHROMA FOR 4 SYSTEM] **J** [POWER SW] **V** [WHITE BALANCE] **C** [R·G·B OUT]

– BA Board –


1
2
3
4
5
6
7
A
B
C
D
BA-2
BA-1
SONY
BA
1-629-145-12

BA Board

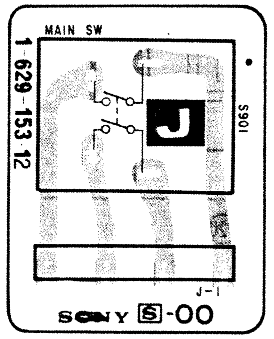
IC	
IC201	D-1
IC210	B-1
IC250	D-2
IC260	C-5
IC261	B-5
IC401	B-8

TRANSISTOR	
Q201	D-2
Q210	C-1
Q211	B-1
Q212	C-1
Q213	C-1
Q214	B-2
Q221	C-2
Q222	B-6
Q230	A-1
Q231	A-1
Q232	A-2
Q233	A-2
Q234	A-2
Q241	A-4
Q242	A-3
Q243	C-3
Q258	C-6
Q259	C-6
Q260	B-5
Q261	B-5
Q262	C-5
Q263	C-5
Q264	C-5
Q265	B-6
Q280	D-5
Q401	D-7
Q402	D-7
Q403	A-6
Q404	A-6
Q405	A-6
Q406	A-7
Q407	A-7
Q408	D-8
Q409	B-9
Q410	C-9
Q411	D-9

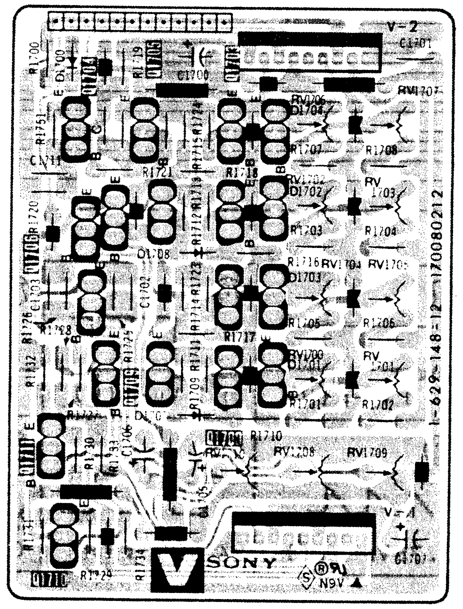
DIODE	
D210	C-1
D211	C-1
D212	C-1
D240	A-4
D280	C-8
D401	B-7
D402	B-7

VARIABLE RESISTOR	
RV290	B-4
RV291	C-4
RV292	C-4

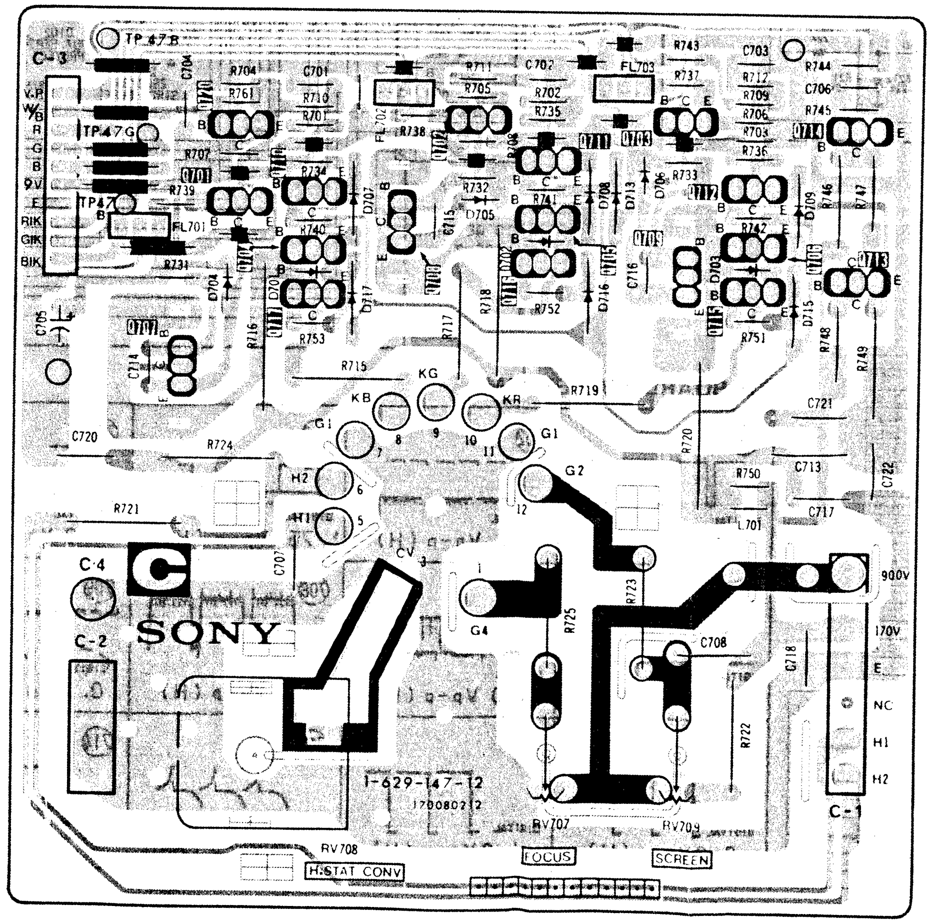
– J Board –


MAIN SW
1-629-153-12
S901
J
J-1
SONY S-00

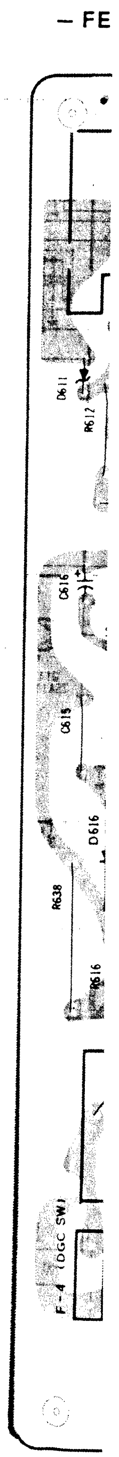
– V Board –


V-2
1-629-148-12
V
SONY

– C Board –

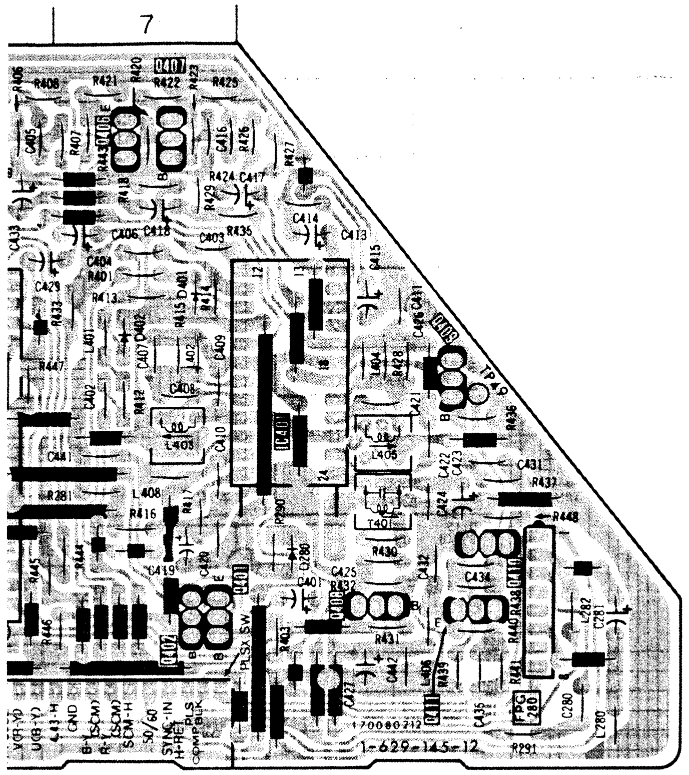

C-3
C-4
C-2
C-1
C
SONY
1-629-147-12
RV708
H.STAT CONV
RV707
FOCUS
RV709
SCREEN
900V
170V
E
NC
H1
H2

– FE



[WHITE BALANCE]

C [R·G·B OUT]


7
IC401
Q401
Q402
Q403
Q404
Q405
Q406
Q407
Q408
Q409
Q410
Q411
R448
L408
T401
1-629-145-12
PULSE SW

BA Board

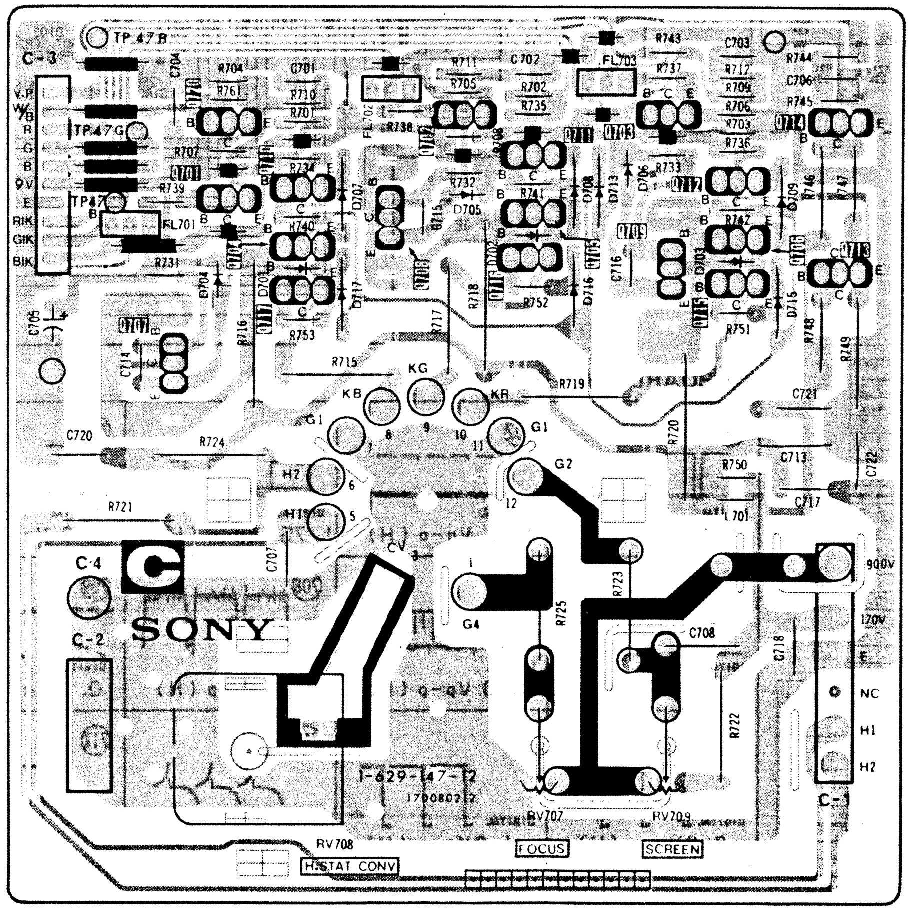
IC	
IC201	D-1
IC210	B-1
IC250	D-2
IC260	C-5
IC261	B-5
IC401	B-8

TRANSISTOR	
Q201	D-2
Q210	C-1
Q211	B-1
Q212	C-1
Q213	C-1
Q214	B-2
Q221	C-2
Q222	B-6
Q230	A-1
Q231	A-1
Q232	A-2
Q233	A-2
Q234	A-2
Q241	A-4
Q242	A-3
Q243	C-3
Q258	C-6
Q259	C-6
Q260	B-5
Q261	B-5
Q262	C-5
Q263	C-5
Q264	C-5
Q265	B-6
Q280	D-5
Q401	D-7
Q402	D-7
Q403	A-6
Q404	A-6
Q405	A-6
Q406	A-7
Q407	A-7
Q408	D-8
Q409	B-9
Q410	C-9
Q411	D-9

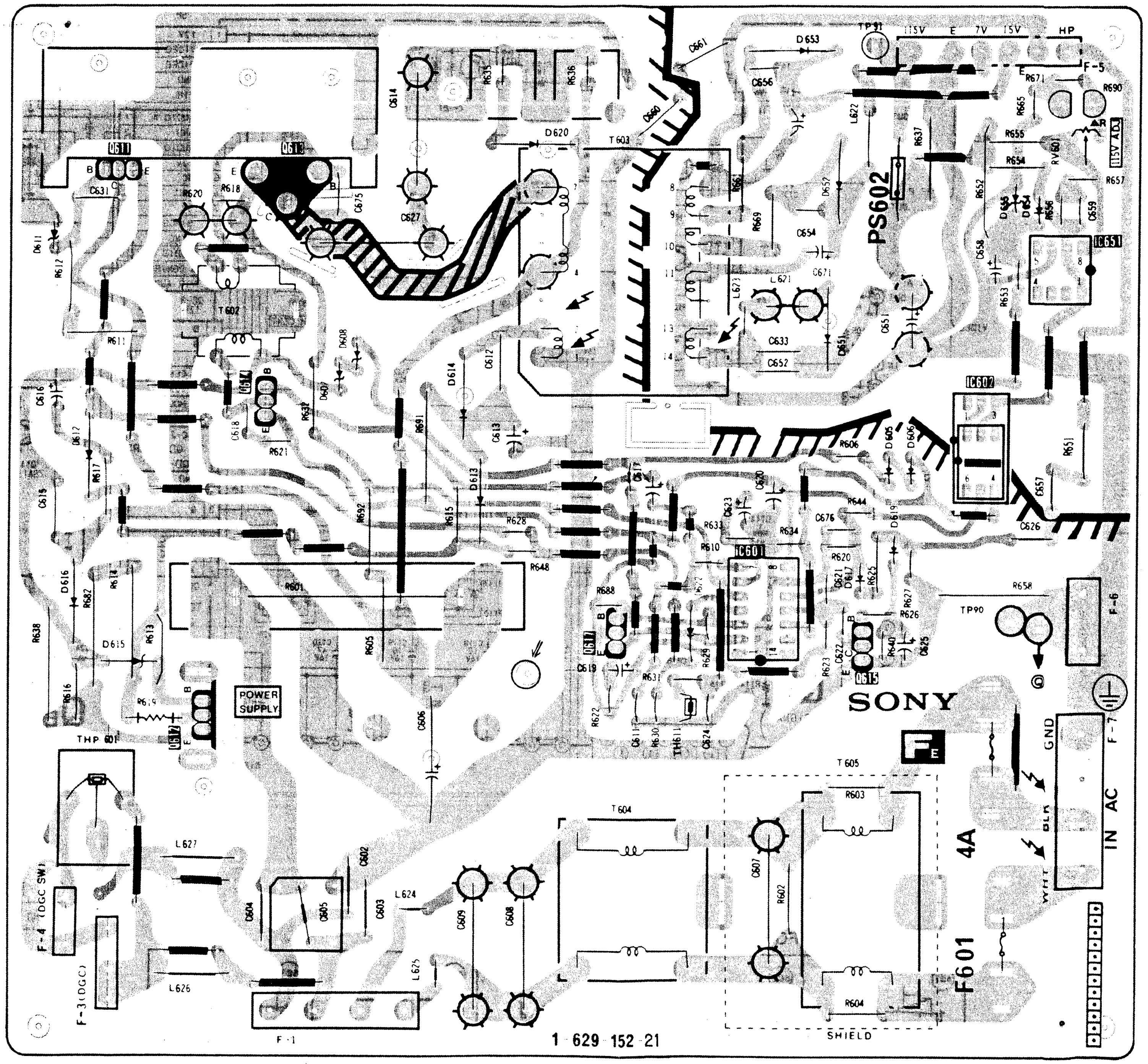
DIODE	
D210	C-1
D211	C-1
D212	C-1
D240	A-4
D280	C-8
D401	B-7
D402	B-7

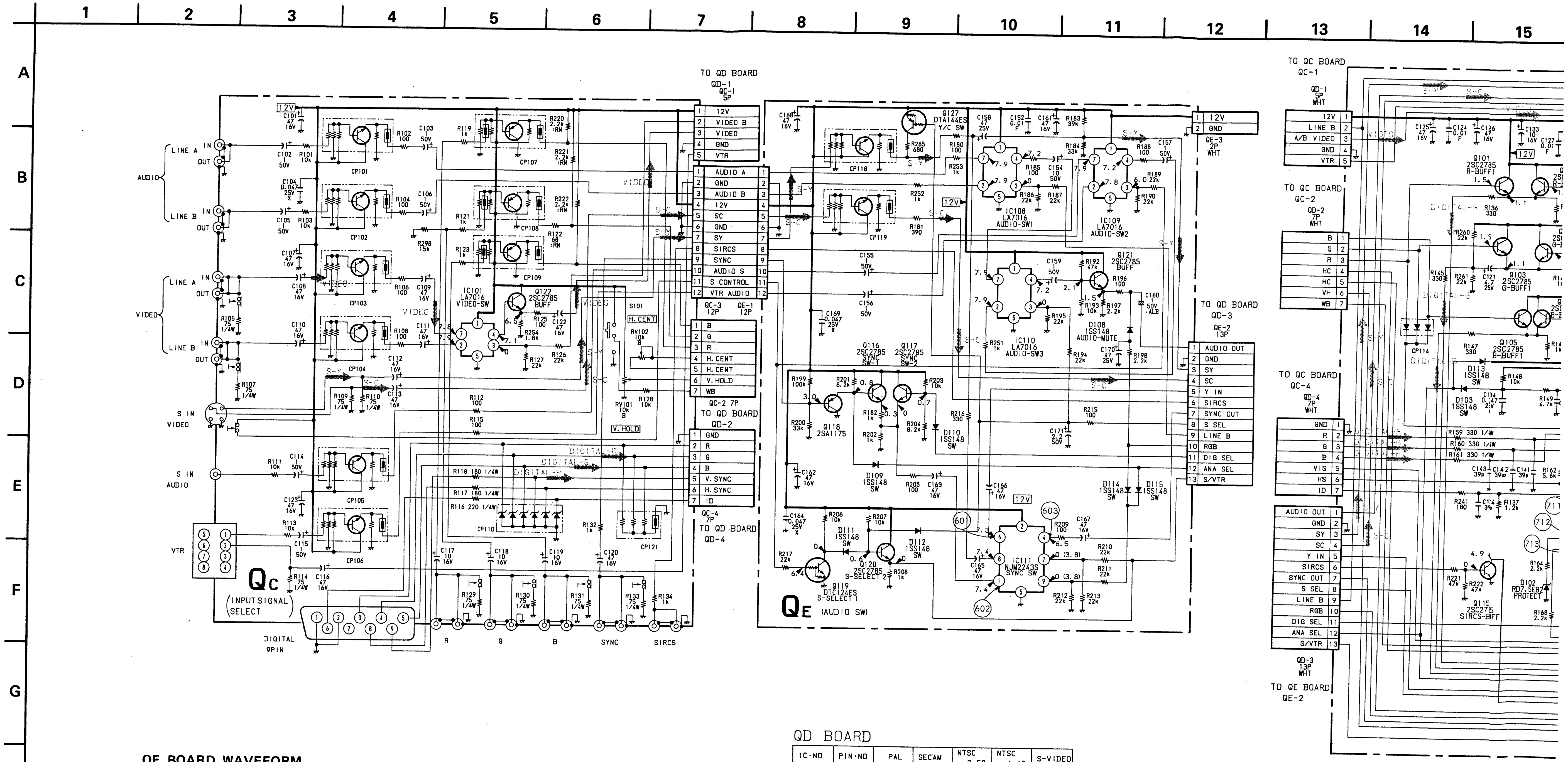
VARIABLE RESISTOR	
RV290	B-4
RV291	C-4
RV292	C-4

– C Board –

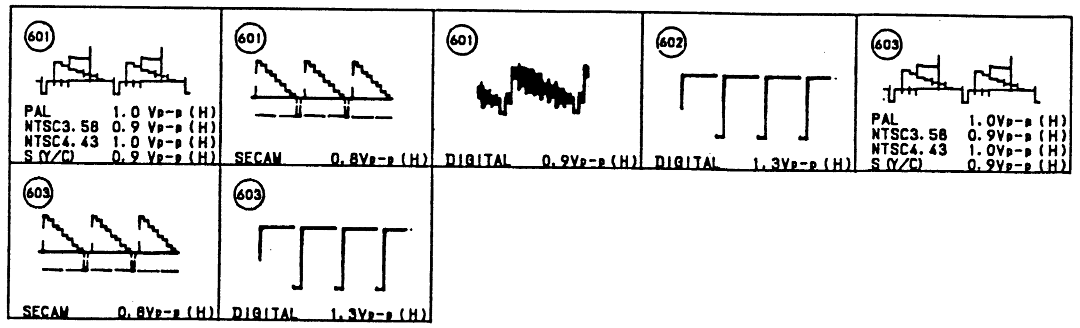

C-3
C-4
C-2
C-1
TP47B
TP47G
TP47R
SONY
C
900V
170V
E
NC
H1
H2
KB
KG
KR
G1
G2
G4
H2
H1
RV708
RV707
RV709
H.STAT CONV
FOCUS
SCREEN
1-629-147-12

– FE Board –


15V
E
7V
15V
HP
F-5
PS602
IC601
IC602
T603
T602
T604
T605
POWER SUPPLY
THP 601
F-4 (DGC SW)
F-3 (DGC)
F-1
F-6
F-7
GND
AC IN
4A
F601
SHIELD
TP90
TP91
SONY
115V ADJ
1 629 152 21


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
TO QD BOARD
QD-1
QC-1
5P
12V
VIDEO B
VIDEO
GND
VTR
AUDIO A
GND
AUDIO B
12V
SC
GND
SY
SIRCS
SYNC
AUDIO S
S CONTROL
VTR AUDIO
QC-3
12P
QE-1
12P
B
G
R
H. CENT
H. CENT
V. HOLD
WB
QC-2 7P
TO QD BOARD
QD-2
GND
R
G
B
V. SYNC
H. SYNC
ID
QC-4
7P
TO QD BOARD
QD-4
AUDIO
LINE A
IN
OUT
LINE B
VIDEO
S IN
VIDEO
S IN
AUDIO
VTR
Qc
(INPUT SIGNAL SELECT)
DIGITAL
9PIN
R
G
B
SYNC
SIRCS
IC101
LA7016
VIDEO-SW
Q122
2SC2785
BUFF
S101
H. CENT
V. HOLD
RV101
RV102
CP101
CP102
CP103
CP104
CP105
CP106
CP107
CP108
CP109
CP110
CP121
CP118
CP119
Q127
DTA144ES
Y/C SW
IC108
LA7016
AUDIO-SW1
IC109
LA7016
AUDIO-SW2
Q121
2SC2785
BUFF
IC110
LA7016
AUDIO-SW3
D108
1SS148
AUDIO-MUTE
Q116
2SC2785
SYNC
SW-1
Q117
2SC2785
SYNC
SW-2
Q118
2SA1175
D110
1SS148
SW
D109
1SS148
SW
D111
1SS148
SW
D112
1SS148
SW
Q120
2SC2785
S-SELECT 2
Q119
DTC124ES
S-SELECT 1
IC111
NJM2243S
SYNC SW
D114
1SS148
SW
D115
1SS148
SW
QE
(AUDIO SW)
12V
GND
QE-3
2P
WHT
TO QD BOARD
QD-3
QE-2
13P
AUDIO OUT
GND
SY
SC
Y IN
SIRCS
SYNC OUT
S SEL
LINE B
RGB
DIG SEL
ANA SEL
S/VTR
TO QC BOARD
QC-1
QD-1
5P
WHT
12V
LINE B
A/B VIDEO
GND
VTR
TO QC BOARD
QC-2
QD-2
7P
WHT
B
G
R
HC
HC
VH
WB
TO QC BOARD
QC-4
QD-4
7P
WHT
GND
R
G
B
VIS
HS
ID
AUDIO OUT
GND
SY
SC
Y IN
SIRCS
SYNC OUT
S SEL
LINE B
RGB
DIG SEL
ANA SEL
S/VTR
QD-3
13P
WHT
TO QE BOARD
QE-2
Q101
2SC2785
R-BUFF1
Q103
2SC2785
G-BUFF1
Q105
2SC2785
B-BUFF1
D113
1SS148
SW
D103
1SS148
SW
Q115
2SC2715
SIRCS-BUFF
D102
RD7.5EB2
PROTECT
601
602
603
711
712
713

QE BOARD WAVEFORM

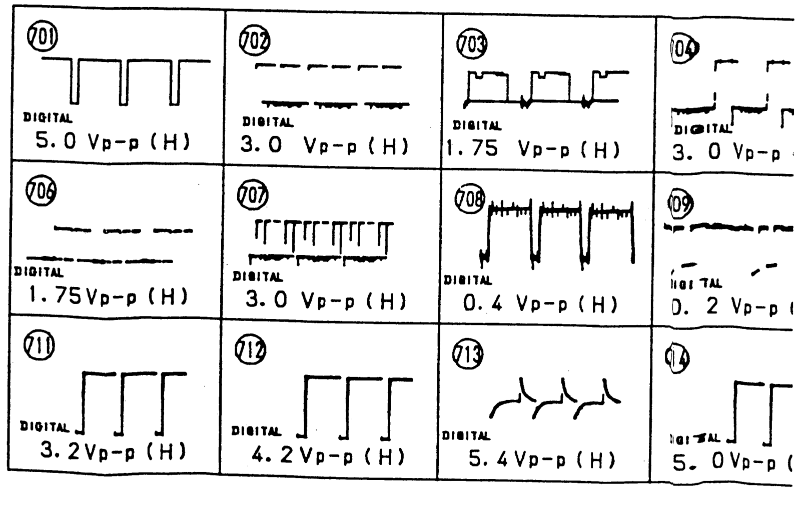

601
PAL 1.0 Vp-p (H)
NTSC3.58 0.9 Vp-p (H)
NTSC4.43 1.0 Vp-p (H)
S (Y/C) 0.9 Vp-p (H)
601
SECAM 0.8Vp-p (H)
601
DIGITAL 0.9Vp-p (H)
602
DIGITAL 1.3Vp-p (H)
603
PAL 1.0Vp-p (H)
NTSC3.58 0.9Vp-p (H)
NTSC4.43 1.0Vp-p (H)
S (Y/C) 0.9Vp-p (H)
603
SECAM 0.8Vp-p (H)
603
DIGITAL 1.3Vp-p (H)

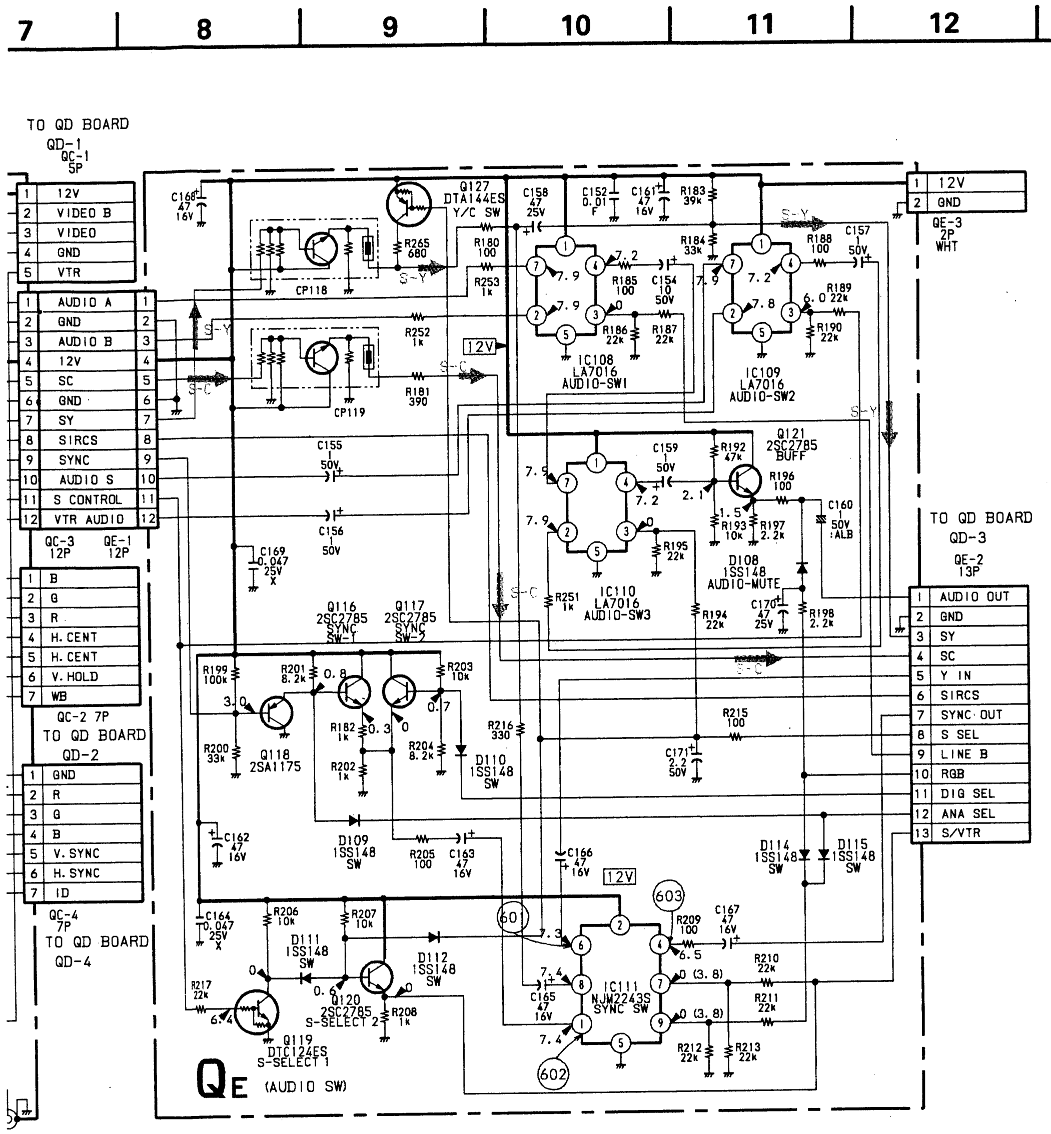
QD BOARD

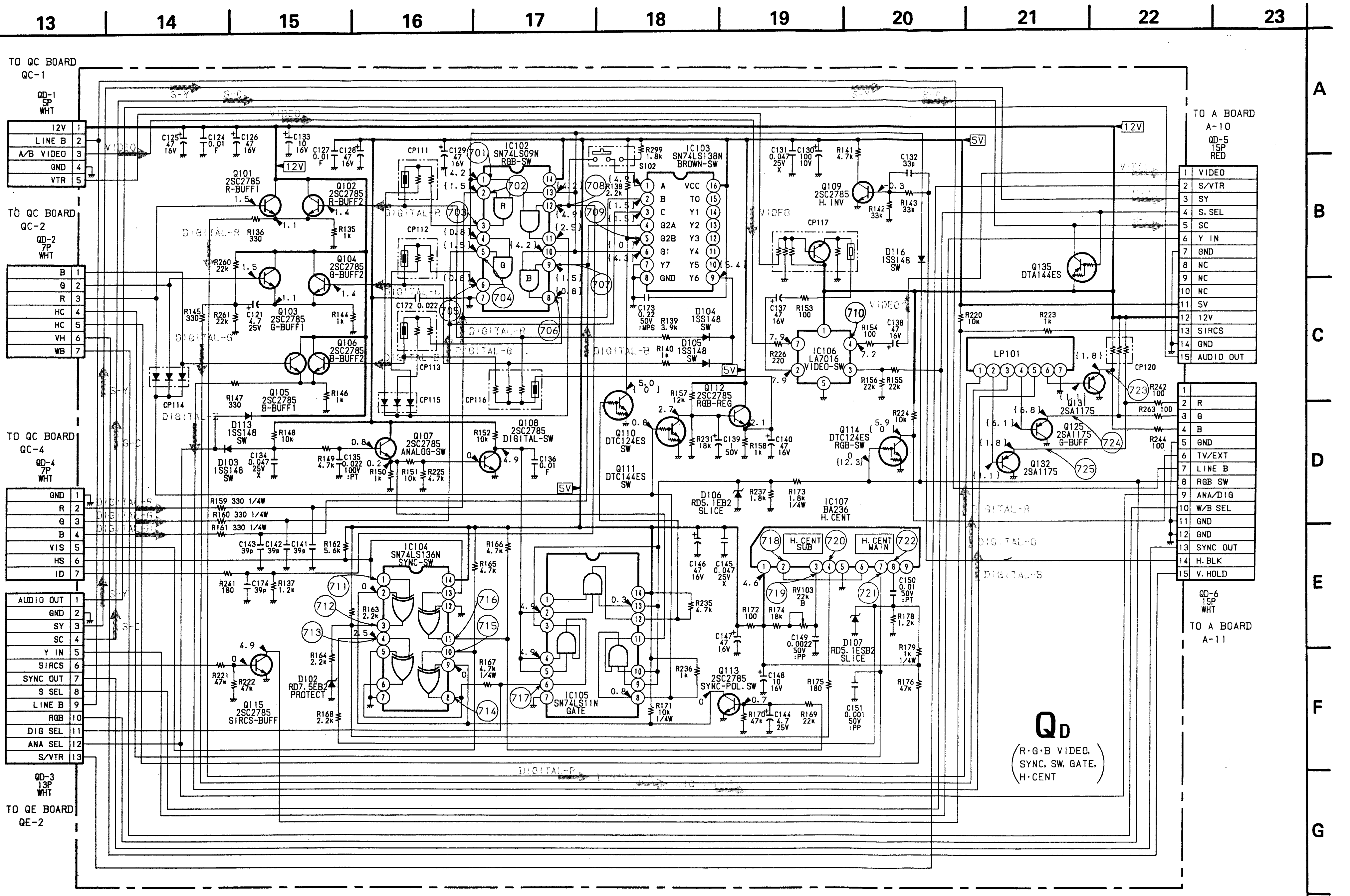
IC·NO	PIN·NO	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
IC104	①	5.0	5.0	5.0	3.4	3.5
	③	4.5	4.6	4.5	4.5	4.2
	⑥⑧	0	0	0	0	4.5
	⑩	0.8	0.8	0.8	3.2	3.3
	⑪	4.1	4.1	4.1	4.1	3.9
	⑬	5.0	5.0	5.0	3.5	3.5
IC105	③	0.4	0.5	0.5	0.5	4.8
	⑥	0	0	0	0	5.0
	⑨⑩⑬	0.5	0.5	0.5	0.5	4.8
	⑫	0	0	0	0	4.3
IC106	③	0	0	0	5.8	0
IC107	②⑥	0	0	0	0	1.8
	③	0.2	0.3	0.5	0.3	0.7
	④	4.5	4.5	4.5	4.5	4.2
	⑦	0	0	0	0	0.6
	⑧	0	0	0	0	1.6

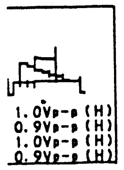
Q NO.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
Q103	B	1.5	1.5	1.5	1.5	1.5	1.8
	C						
	E	0.9	0.9	0.9	0.9	0.9	1.1
Q106	B	1.4	1.4	1.4	1.4	1.4	1.8
	C						
	E	0.9	0.9	0.9	0.9	0.9	1.1
Q109	B						
	C	0.5	0.5	0.5	10.5	0.5	4.2
	E						
Q110	B	0	0	0	0	0	4.3
	C						
	E						

QD BOARD WAVEFORM


701
DIGITAL
5.0 Vp-p (H)
702
DIGITAL
3.0 Vp-p (H)
703
DIGITAL
1.75 Vp-p (H)
DIGITAL
3. 0 Vp-p
706
DIGITAL
1.75Vp-p (H)
707
DIGITAL
3.0 Vp-p (H)
708
DIGITAL
0.4 Vp-p (H)
0. 2 Vp-p
711
DIGITAL
3.2Vp-p (H)
712
DIGITAL
4.2Vp-p (H)
713
DIGITAL
5.4Vp-p (H)
5. 0Vp-p


7
8
9
10
11
12
TO QD BOARD QD-1
QC-1 5P
TO QD BOARD QD-2
TO QD BOARD QD-3
TO QD BOARD QD-4
QC-2 7P
QC-3 12P
QE-1 12P
QE-2 13P
QE-3 2P WHT
QC-4 7P
12V
VIDEO B
VIDEO
GND
VTR
AUDIO A
AUDIO B
SC
SY
SIRCS
SYNC
AUDIO S
S CONTROL
VTR AUDIO
B
G
R
H.CENT
V.HOLD
WB
V.SYNC
H.SYNC
ID
AUDIO OUT
Y IN
SYNC OUT
S SEL
LINE B
RGB
DIG SEL
ANA SEL
S/VTR
IC108 LA7016 AUDIO-SW1
IC109 LA7016 AUDIO-SW2
IC110 LA7016 AUDIO-SW3
IC111 NJM2243S SYNC SW
Q127 DTA144ES Y/C SW
Q121 2SC2785 BUFF
Q116 2SC2785 SYNC SW-1
Q117 2SC2785 SYNC SW-2
Q118 2SA1175
Q119 DTC124ES S-SELECT 1
Q120 2SC2785 S-SELECT 2
D108 1SS148 AUDIO-MUTE
CP118
CP119
QE (AUDIO SW)


13
14
15
16
17
18
19
20
21
22
23
A
B
C
D
E
F
G
TO QC BOARD QC-1
QD-1 5P WHT
TO QC BOARD QC-2
QD-2 7P WHT
TO QC BOARD QC-4
QD-4 7P WHT
QD-3 13P WHT
TO QE BOARD QE-2
TO A BOARD A-10
QD-5 15P RED
QD-6 15P WHT
TO A BOARD A-11
IC102 SN74LS09N RGB-SW
IC103 SN74LS138N BROWN-SW
IC104 SN74LS136N SYNC-SW
IC105 SN74LS11N GATE
IC106 LA7016 VIDEO-SW
IC107 BA236 H.CENT
LP101
Q101 2SC2785 R-BUFF1
Q102 2SC2785 R-BUFF2
Q103 2SC2785 G-BUFF1
Q104 2SC2785 G-BUFF2
Q105 2SC2785 B-BUFF1
Q106 2SC2785 B-BUFF2
Q107 2SC2785 ANALOG-SW
Q108 2SC2785 DIGITAL-SW
Q109 2SC2785 H. INV
Q110 DTC124ES SW
Q111 DTC144ES SW
Q112 2SC2785 RGB-REG
Q113 2SC2785 SYNC-POL. SW
Q114 DTC124ES RGB-SW
Q115 2SC2785 SIRCS-BUFF
Q125 2SA1175 G-BUFF
Q131 2SA1175
Q132 2SA1175
Q135 DTA144ES
D102 RD7.5EB2 PROTECT
D106 RD5.1EB2 SLICE
D107 RD5.1ESB2 SLICE
H.CENT SUB
H.CENT MAIN
DIGITAL-R
DIGITAL-G
DIGITAL-B
VIDEO
S-Y
S-C
12V
5V
QD
(R·G·B VIDEO, SYNC, SW, GATE, H·CENT)

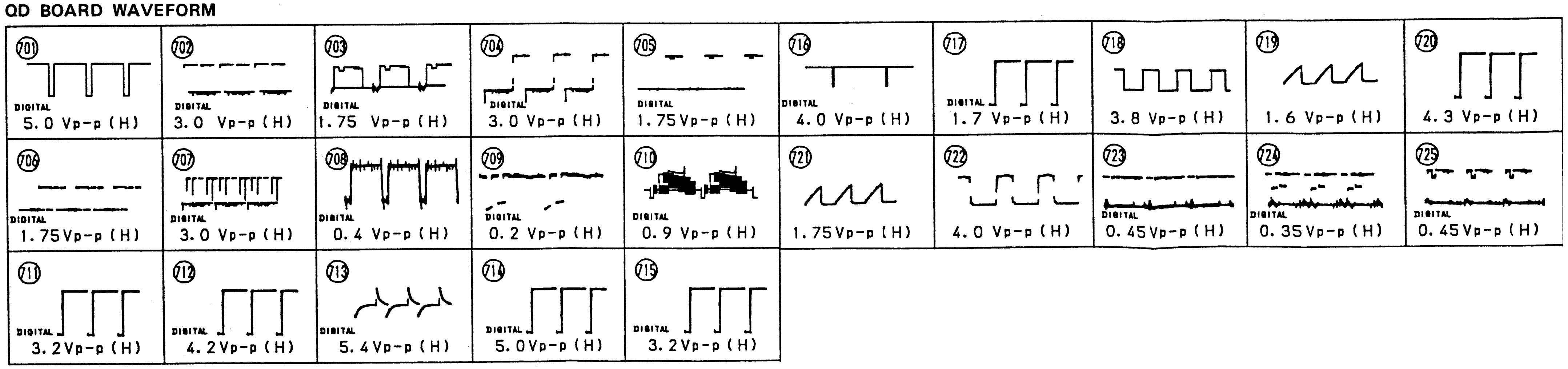

1.0Vp-p (H)
0.9Vp-p (H)
1.0Vp-p (H)
0.9Vp-p (H)

QD BOARD

IC·NO	PIN·NO	PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO
IC104	①	5.0	5.0	5.0	3.4	3.5
	③	4.5	4.6	4.5	4.5	4.2
	⑥⑧	0	0	0	0	4.5
	⑩	0.8	0.8	0.8	3.2	3.3
	⑪	4.1	4.1	4.1	4.1	3.9
	⑬	5.0	5.0	5.0	3.5	3.5
IC105	③	0.4	0.5	0.5	0.5	4.8
	⑥	0	0	0	0	5.0
	⑨⑩⑬	0.5	0.5	0.5	0.5	4.8
	⑫	0	0	0	0	4.3
IC106	③	0	0	0	5.8	0
IC107	②⑥	0	0	0	0	1.8
	③	0.2	0.3	0.5	0.3	0.7
	④	4.5	4.5	4.5	4.5	4.2
	⑦	0	0	0	0	0.6
	⑧	0	0	0	0	1.6

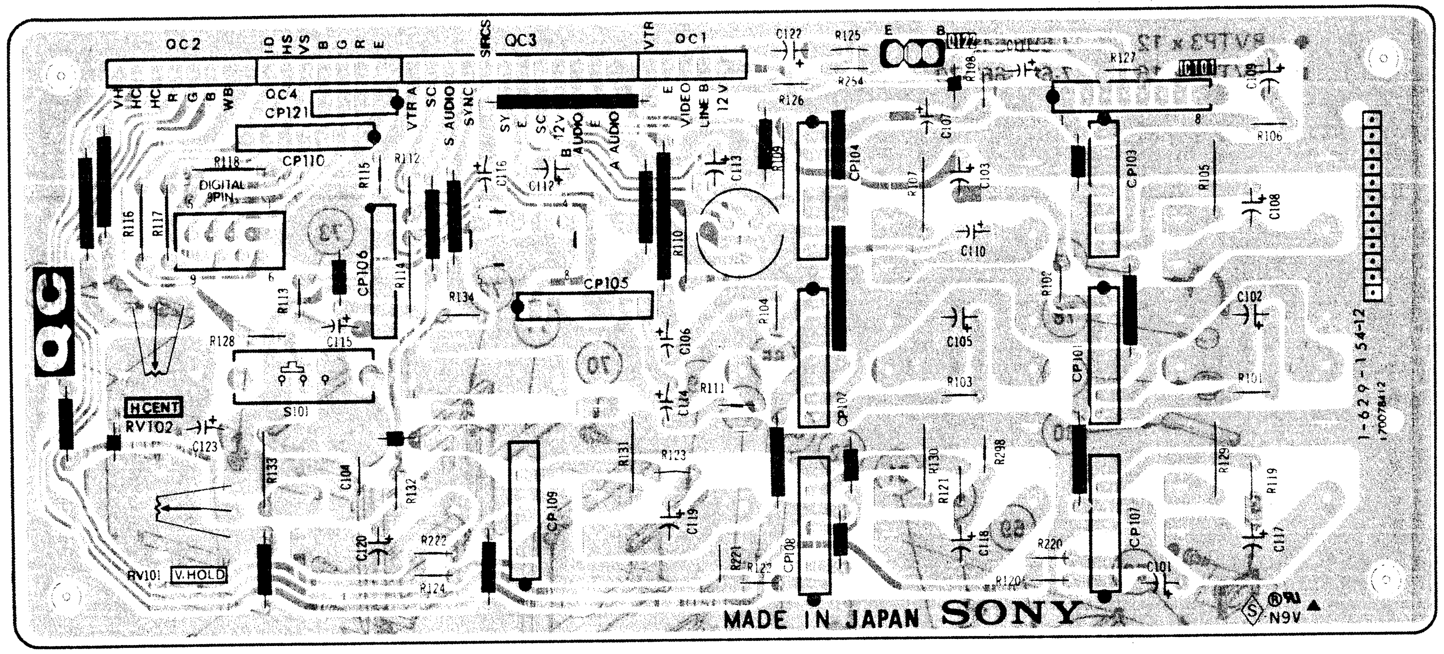
Q NO.		PAL	SECAM	NTSC 3.58	NTSC 4.43	S-VIDEO	DIGITAL
Q103	B	1.5	1.5	1.5	1.5	1.5	1.8
	C						
	E	0.9	0.9	0.9	0.9	0.9	1.1
Q106	B	1.4	1.4	1.4	1.4	1.4	1.8
	C						
	E	0.9	0.9	0.9	0.9	0.9	1.1
Q109	B						
	C	0.5	0.5	0.5	10.5	0.5	4.2
	E						
Q110	B	0	0	0	0	0	4.3
	C						
	E						

QD BOARD WAVEFORM

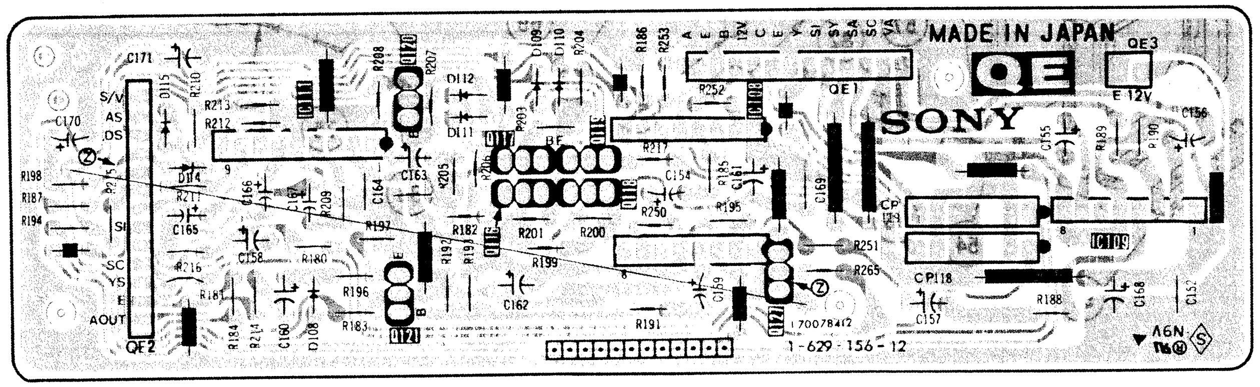

701
DIGITAL
5.0 Vp-p (H)
702
DIGITAL
3.0 Vp-p (H)
703
DIGITAL
1.75 Vp-p (H)
704
DIGITAL
3.0 Vp-p (H)
705
DIGITAL
1.75Vp-p (H)
716
DIGITAL
4.0 Vp-p (H)
717
DIGITAL
1.7 Vp-p (H)
718
3.8 Vp-p (H)
719
1.6 Vp-p (H)
720
4.3 Vp-p (H)
706
DIGITAL
1.75Vp-p (H)
707
DIGITAL
3.0 Vp-p (H)
708
DIGITAL
0.4 Vp-p (H)
709
DIGITAL
0.2 Vp-p (H)
710
DIGITAL
0.9 Vp-p (H)
721
1.75Vp-p (H)
722
4.0 Vp-p (H)
723
DIGITAL
0.45Vp-p (H)
724
DIGITAL
0.35Vp-p (H)
725
DIGITAL
0.45Vp-p (H)
711
DIGITAL
3.2Vp-p (H)
712
DIGITAL
4.2Vp-p (H)
713
DIGITAL
5.4Vp-p (H)
714
DIGITAL
5.0Vp-p (H)
715
DIGITAL
3.2Vp-p (H)

QC [INPUT SIGNAL SELECT] **QD** [R·G·B, VIDEO, SYNC SW / GATE, H·POSITION] **QE** [AUDIO SW]

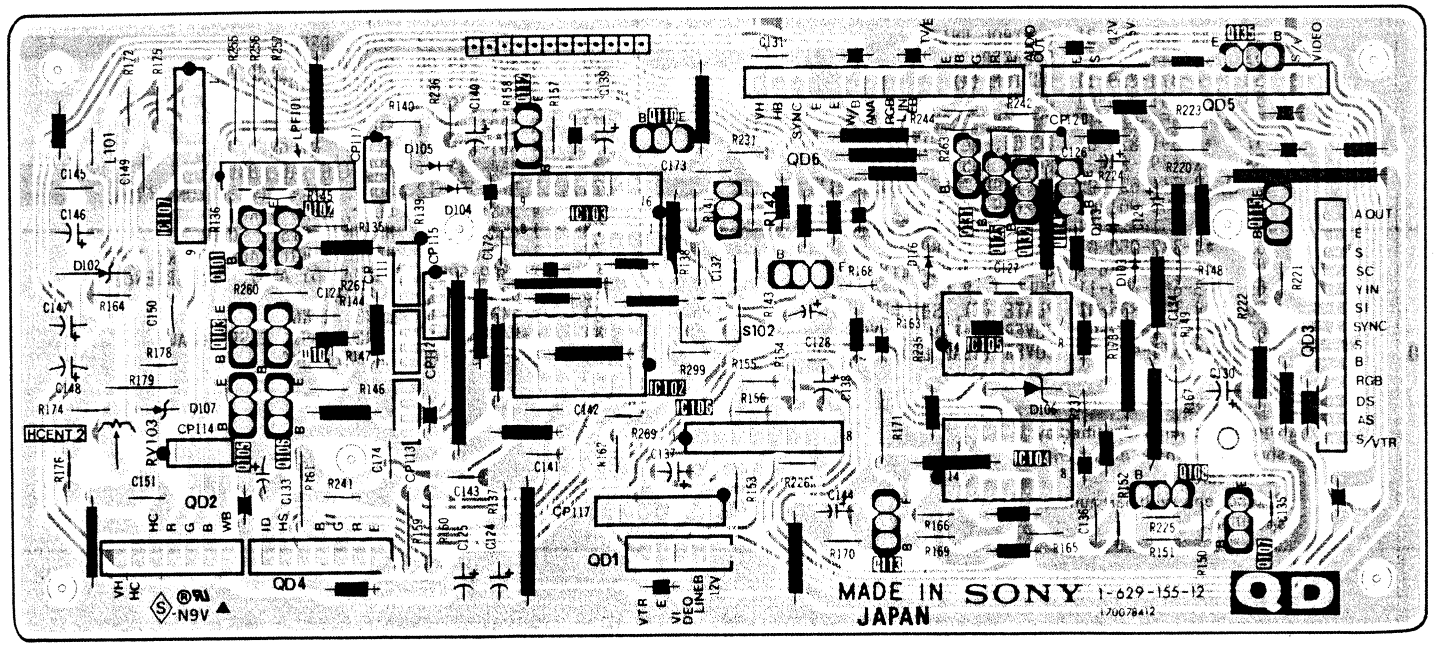
– QC Board –


QC
HCENT
RV102
RV101
V.HOLD
S101
MADE IN JAPAN SONY
1-629-154-12
N9V

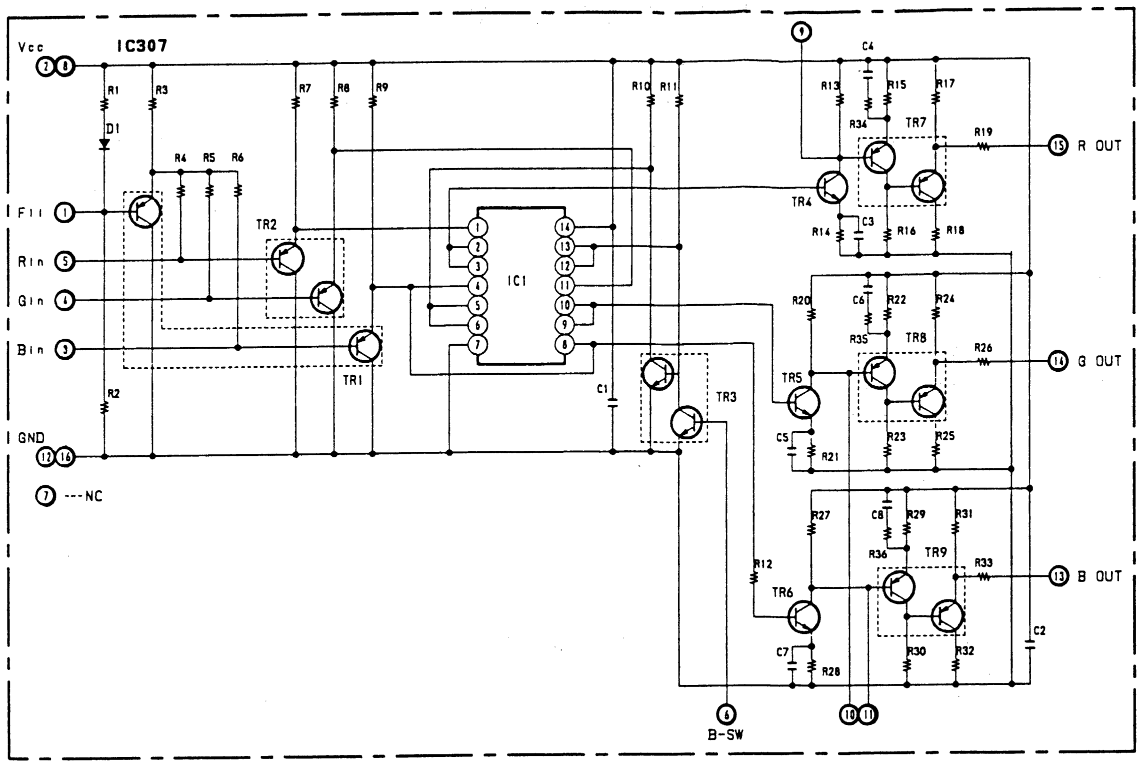
– QE Board –


MADE IN JAPAN
QE
SONY
QE3
E 12V
QF2
1-629-156-12
A6N

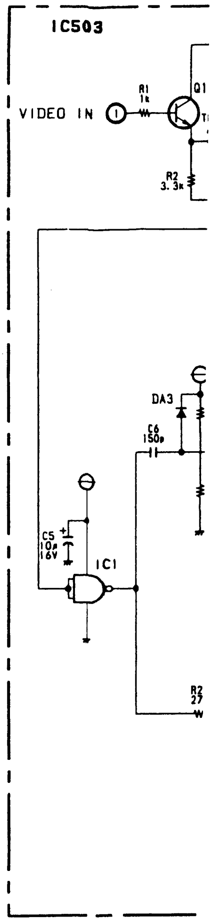
– QD Board –


HCENT 2
RV103
QD2
QD4
QD1
QD5
QD6
S102
MADE IN JAPAN SONY 1-629-155-12
QD
N9V

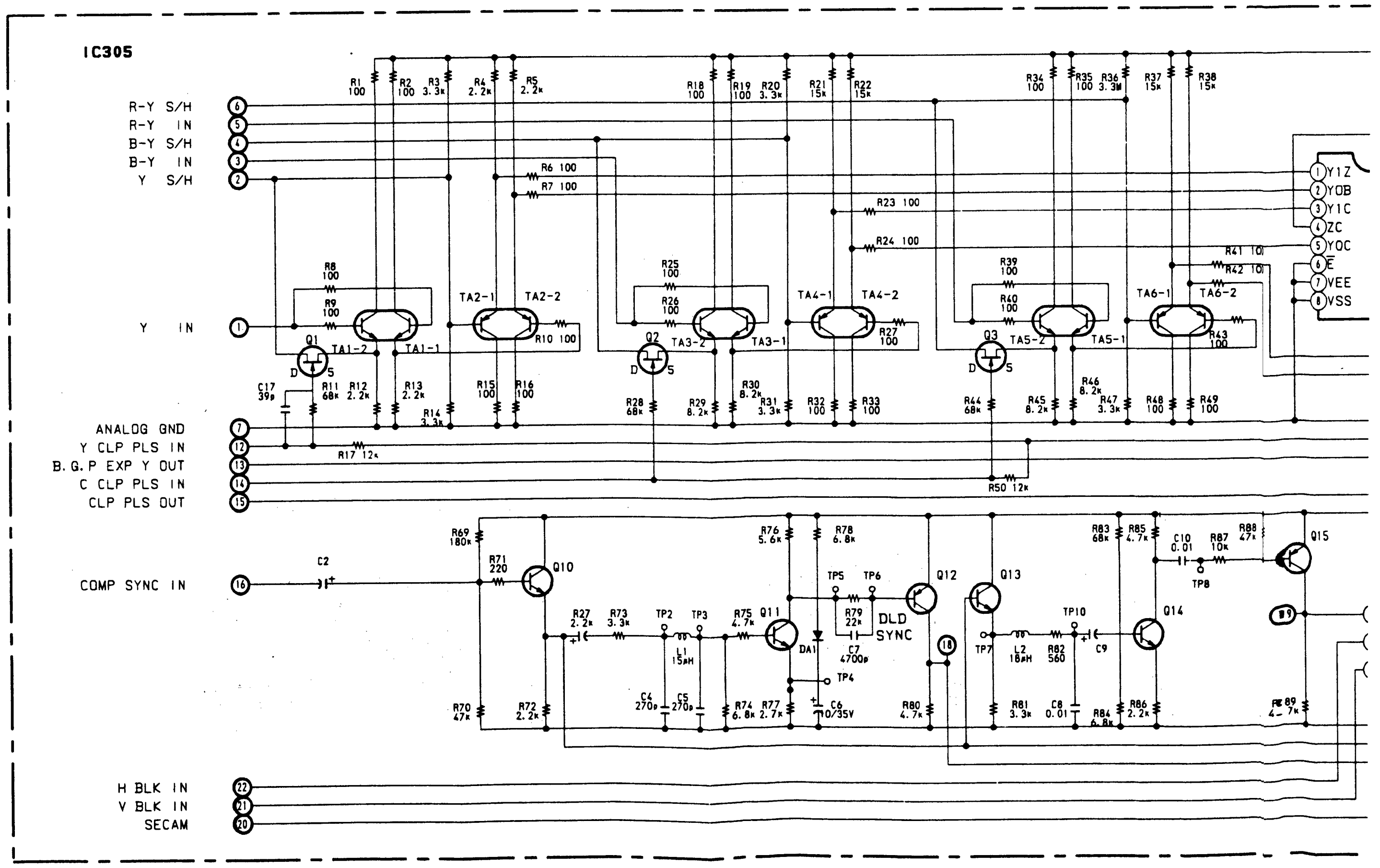
A BOARD IC307


IC307
Vcc
F11
R in
G in
B in
GND
---NC
IC1
TR1
TR2
TR3
TR4
TR5
TR6
TR7
TR8
TR9
R OUT
G OUT
B OUT
B-SW

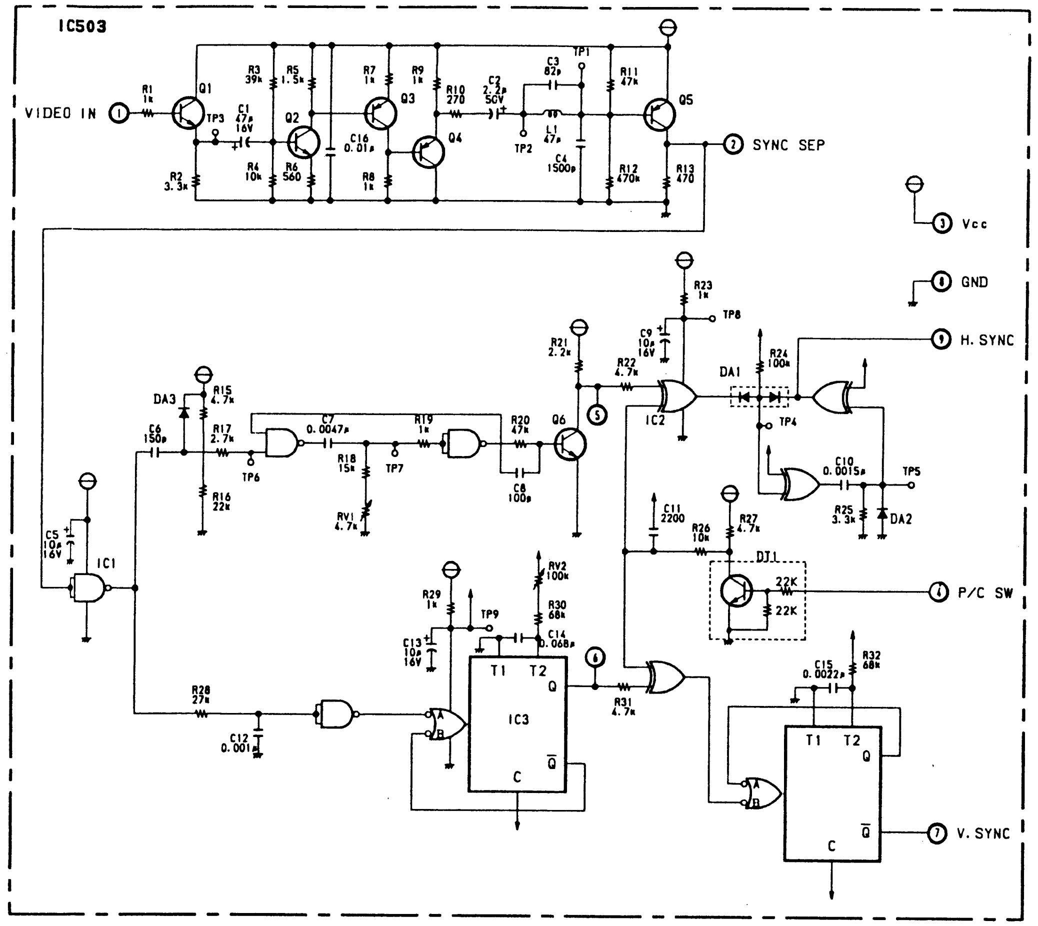
A BOARD IC503

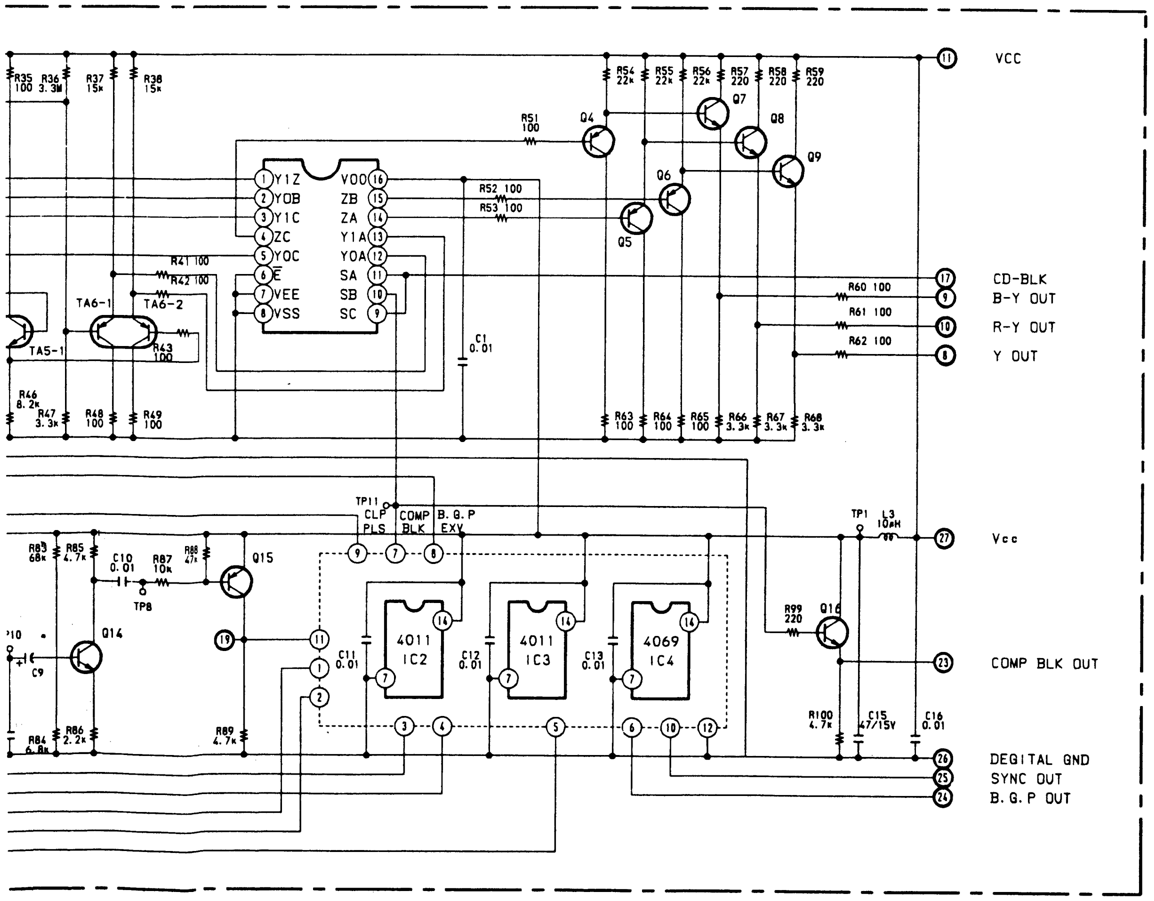

IC503
VIDEO IN
IC1
DA3

A BOARD IC 305


IC305
R-Y S/H
R-Y IN
B-Y S/H
B-Y IN
Y S/H
Y IN
ANALOG GND
Y CLP PLS IN
B.G.P EXP Y OUT
C CLP PLS IN
CLP PLS OUT
COMP SYNC IN
H BLK IN
V BLK IN
SECAM
DLD SYNC
Y1Z
Y0B
Y1C
ZC
Y0C
E
VEE
VSS

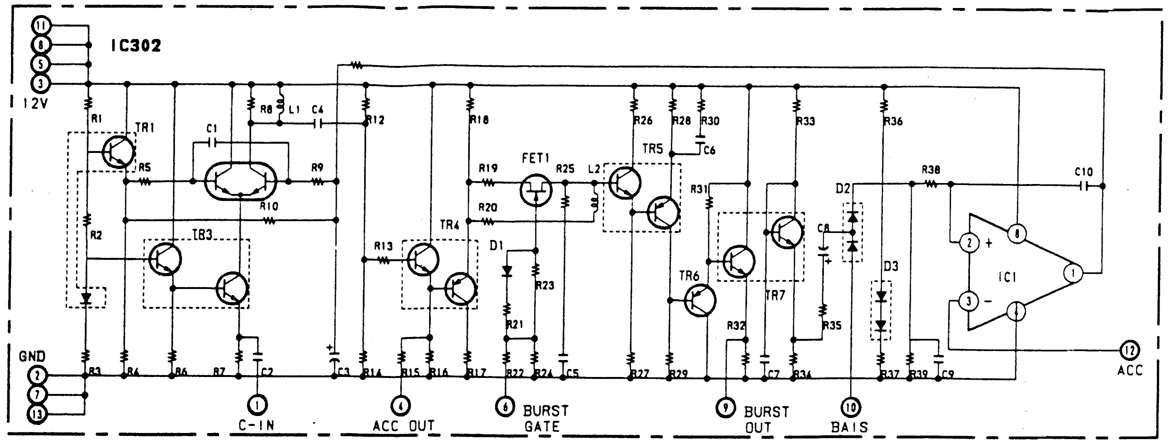
A BOARD IC503


IC503
VIDEO IN ①
② SYNC SEP
③ Vcc
⑧ GND
⑨ H. SYNC
④ P/C SW
⑦ V. SYNC
IC1
IC2
IC3
DA1
DA2
DA3
DT1
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
Q1
Q2
Q3
Q4
Q5
Q6
RV1 4.7k
RV2 100k
T1 T2 Q C

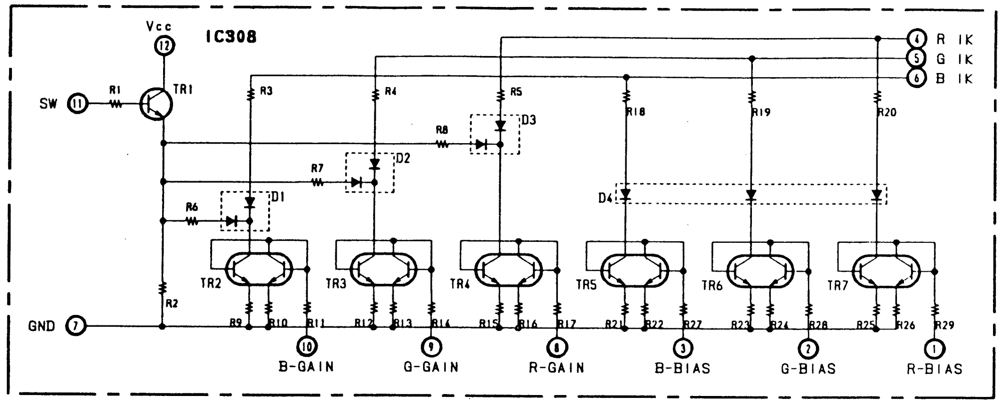

⑪ VCC
⑰ CD-BLK
⑥ B-Y OUT
⑩ R-Y OUT
⑧ Y OUT
㉗ Vcc
㉓ COMP BLK OUT
㉖ DEGITAL GND
㉕ SYNC OUT
㉔ B. G. P OUT
4011 IC2
4011 IC3
4069 IC4
TP11 CLP PLS
COMP BLK
B. G. P EXV
Y1Z
Y0B
Y1C
ZC
Y0C
E
VEE
VSS
VDD
ZB
ZA
Y1A
Y0A
SA
SB
SC
TA5-1
TA6-1
TA6-2
Q4
Q5
Q6
Q7
Q8
Q9
Q14
Q15
Q16
TP1
TP8
L3 10µH

-55-

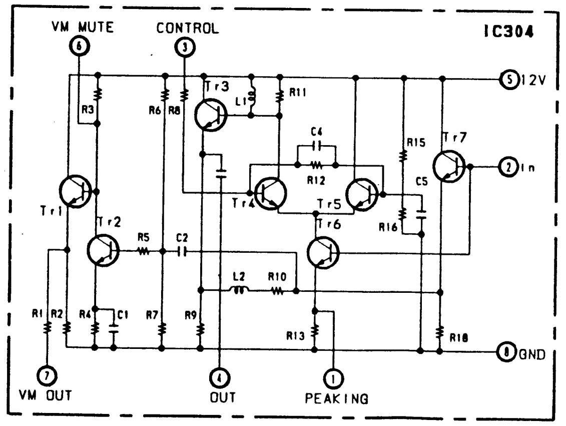
A BOARD IC302


IC302
12V
GND
⑫ ACC
① C-IN
④ ACC OUT
⑥ BURST GATE
⑨ BURST OUT
⑩ BAIS
IC1
TR1
TR3
TR4
TR5
TR6
TR7
FET1
D1
D2
D3

A BOARD IC308

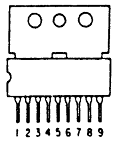

Vcc ⑫
IC308
SW ⑪
④ R IK
⑤ G IK
⑥ B IK
GND ⑦
⑩ B-GAIN
⑨ G-GAIN
⑧ R-GAIN
③ B-BIAS
② G-BIAS
① R-BIAS
TR1
TR2
TR3
TR4
TR5
TR6
TR7
D1
D2
D3
D4

A BOARD IC304

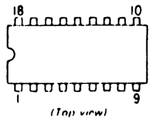

VM MUTE ⑥
CONTROL ③
IC304
⑤ 12V
② In
⑧ GND
⑦ VM OUT
④ OUT
① PEAKING
Tr1
Tr2
Tr3
Tr4
Tr5
Tr6
Tr7
L1
L2

6-6. SEMICONDUCTORS

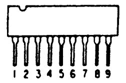
AN5265



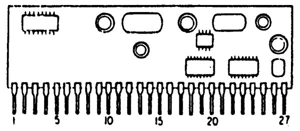
AN5613


18
10
1
9
(Top view)

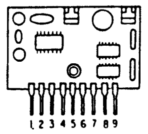
BA236



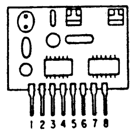
BX-7573


1
5
10
15
20
27

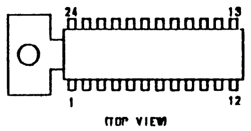
BX-7574



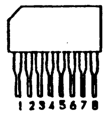
BX-7595



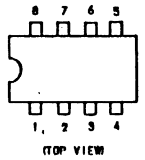
CX-175


24
13
1
12
(TOP VIEW)

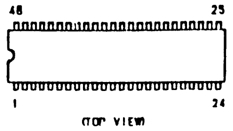
CX20125



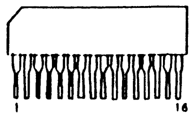
CX-23025
IR9431
LA7016
UPC358C
UPC4558C


8 7 6 5
1 2 3 4
(TOP VIEW)

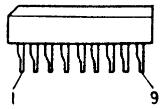
CXA1024S


48
25
1
24
(TOP VIEW)

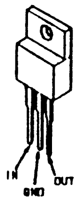
LA7061



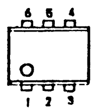
NJM2243S



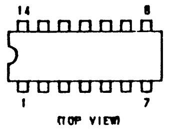
NJM7812B



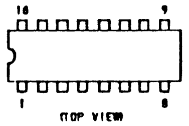
PC111S



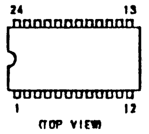
SN74LS09N
SN74LS11N
SN74LS136N
TC4011BP
TC4066BP
UPC1394C


14
8
1
7
(TOP VIEW)

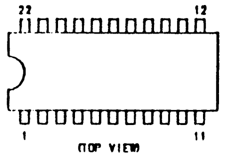
SN74LS138N
TC4052BP
TC4053BP
TC4538BP


16
9
1
8
(TOP VIEW)

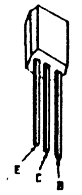
TA7193P


24
13
1
12
(TOP VIEW)

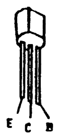
UPC1377C


22
12
1
11
(TOP VIEW)

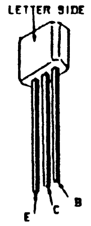
DTA124ES-TP
DTA144ES
DTC124ES-TP
DTC144ES-TP



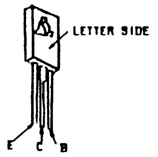
2SA1091-R
2SC1890A-ETZ
2SC2551-R



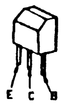
2SA1175TP-F
2SA1175TP-HFE
2SC2785TP-F
2SC2785TP-HFE


LETTER SIDE
E C B

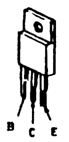
2SA1220A-P
2SA1220A-Q
2SC2611
2SC2688-K
2SC2690A-Q


LETTER SIDE
E C B

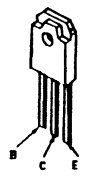
2SC2958-L
2SD773-T-4
2SD774-T-3



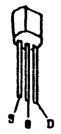
2SD1134-C



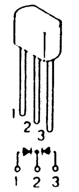
2SD1397-CA



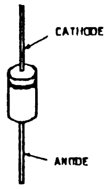
2SK105A-40



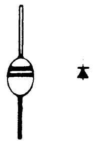
DAN209S-TP



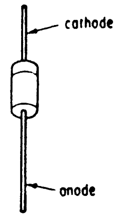
ERB11-06
ERD28-08S
RD6.8EB2
RGP10D
RGP15D
1SS83


CATHODE
ANODE

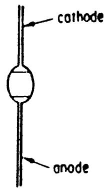
ERC26-15S
V11N



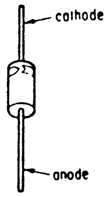
GP08D


cathode
anode

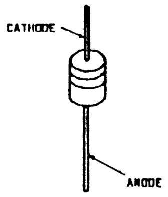
RD4.3ES-T1L2


cathode
anode

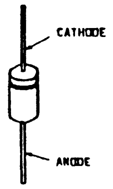
RD5.6EBZ75TN


cathode
anode

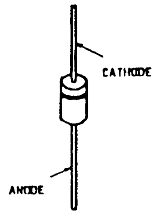
RD5.1ES-2V
RD5.6ES-T1L1
RD6.2ES-T1B2
RD6.8ES-T1B2
RD8.2ES-T1B2
RD10ES-T1B1
RD10ES-T1L3
RD13ES-T1B3
RD15ES-T1B2
RD16ES-T1B3
RD39ES-T1B4


CATHODE
ANODE

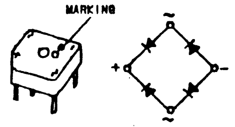
RD-6.8EB-2
RD16EB3TN
RD24EB27TN
10E2-TA2B


CATHODE
ANODE

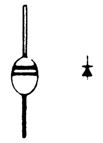
RD110EBTN
RH-1Z
RU2AM
S1B01-06
S1B01-04TP1


CATHODE
ANODE

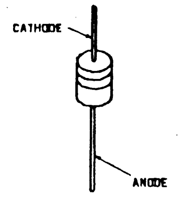
S3WB60Z



V19E



1SS148
1SS148-TP7


CATHODE
ANODE

SECTION 7
EXPLODED VIEWS

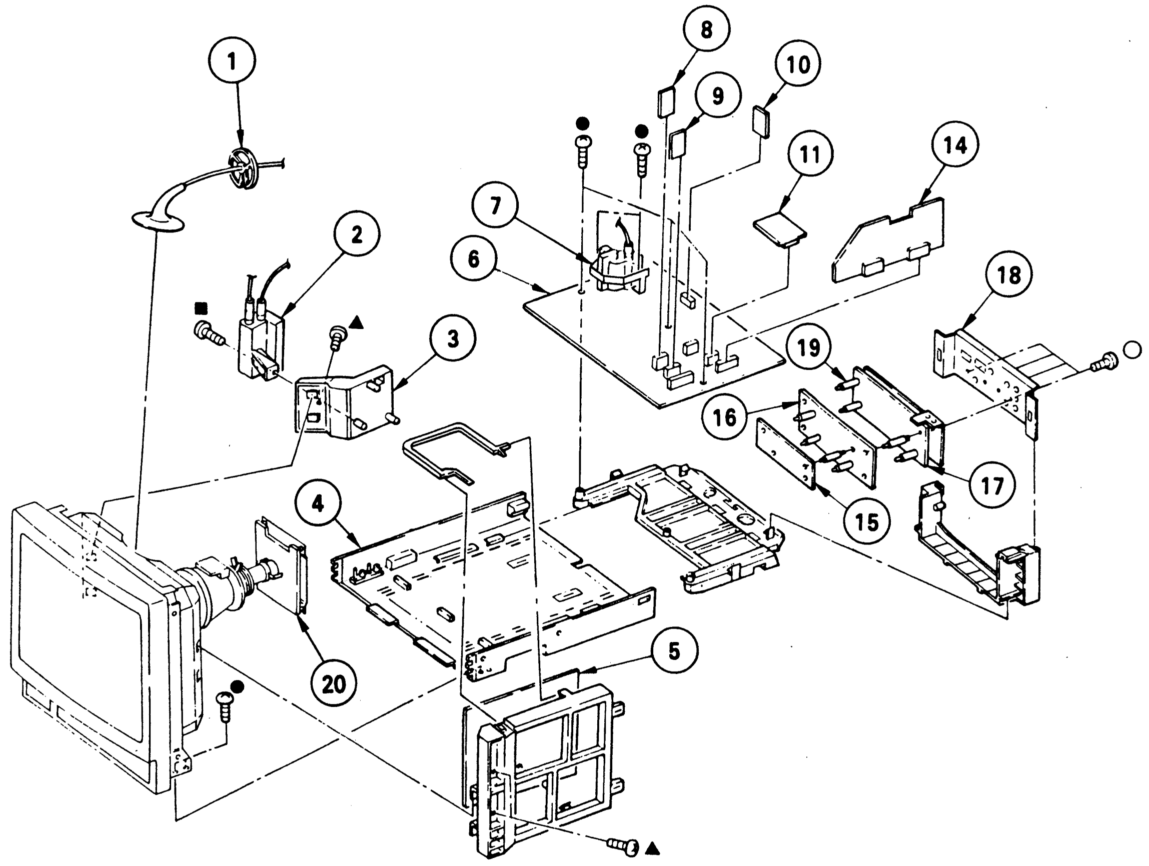
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. CHASSIS

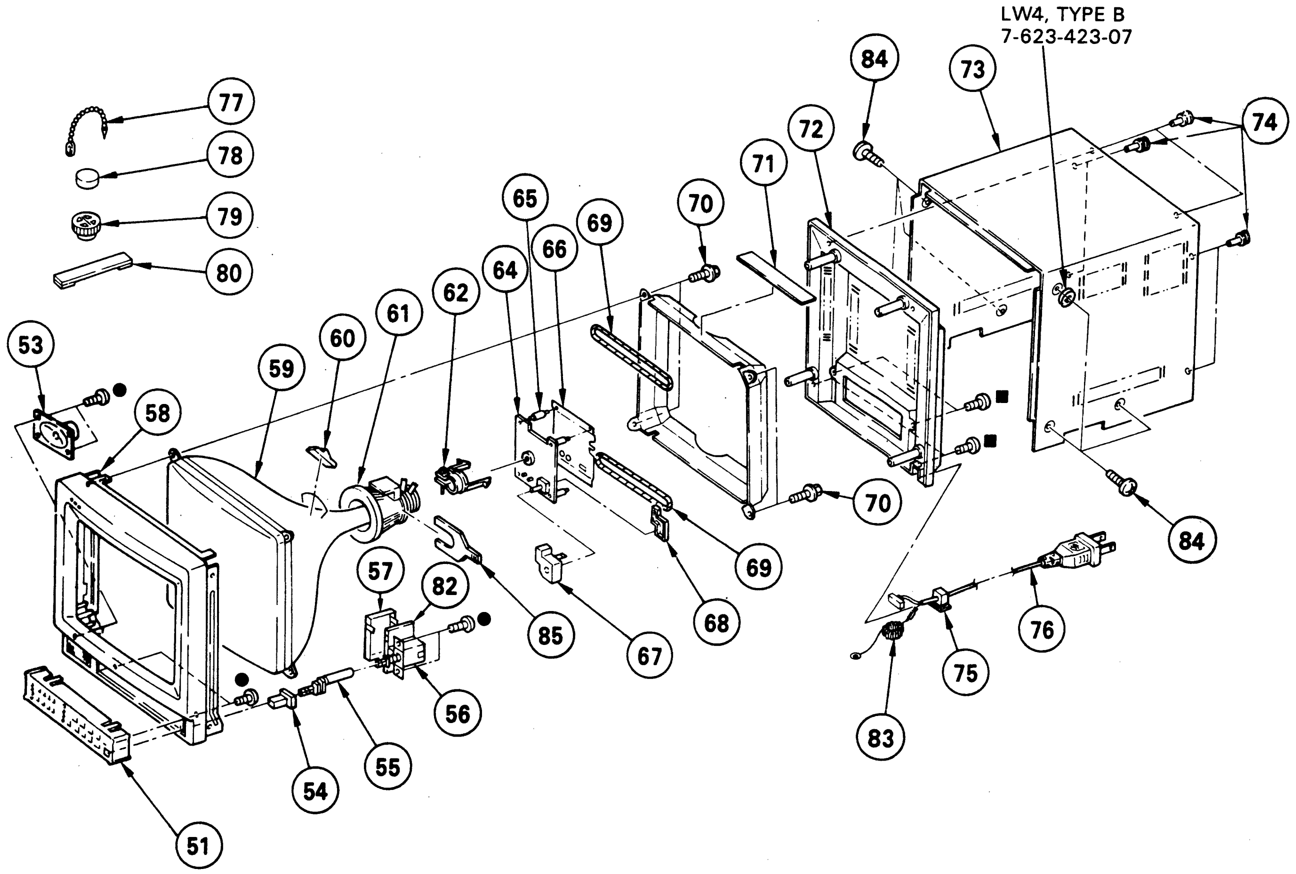
● :	BVTP3 x 12	7-685-648-79
■ :	BVTP4 x 16	7-685-663-79
▲ :	BVTT4 x 8	7-682-561-04
○ :	BVTP3 x 8	7-685-646-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*3-704-372-01	HOLDER, HV CABLE	
2 ⚠	.1-237-614-12	RESISTOR ASSY, HIGH-VOLTAGE	
3	*4-391-842-01	BRACKET, HVR	
4	X-4391-805-1	CABINET ASSY, BOTTOM	
5	*A-1245-465-A	FE BOARD, COMPLETE	
6	*A-1296-520-A	A BOARD, COMPLETE	8,9
7 ⚠	.1-439-395-12	TRANSFORMER ASSY, FLYBACK	
8	*1-629-149-12	W BOARD	
9	*1-629-151-11	XA BOARD	
10	*1-629-150-11	Y BOARD	
11	*1-629-148-11	V BOARD	
14	*A-1135-573-A	BA BOARD, COMPLETE	10,11,20
15	*A-1270-249-A	QE BOARD, COMPLETE	
16	*A-1270-248-A	QD BOARD, COMPLETE	
17	*A-1270-247-A	QC BOARD, COMPLETE	
18	4-391-843-11	PLATE, TERMINAL	
19	*3-682-419-01	HOLDER, P.C.B	
20	*A-1330-986-A	C BOARD, COMPLETE	

7-2. PICTURE TUBE

● :	BVTP3 x 12	7-685-648-79
■ :	BVTP4 x 16	7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK
51	1-466-076-21	CONTROL UNIT	
53	1-544-063-11	SPEAKER	
54	4-374-839-11	BUTTON (A)	
55	4-391-824-01	JOINT	
56 ⚠	.1-554-967-12	SWITCH, PUSH (AC POWER)(1 KEY)	
57	*4-391-820-01	COVER, AC SWITCH	
58	X-4391-804-3	BEZEL ASSY	
59 ⚠	.8-734-621-05	PICTURE TUBE (M34KBE21X)	
60	3-703-961-01	SPACER, DY	
61 ⚠	.1-451-329-11	DEFLECTION YOKE (Y14FZA)	
62	*4-382-050-01	BAND, C PC BOARD	
64	*A-1330-986-A	C BOARD, COMPLETE	
65	*3-682-419-11	HOLDER, P.C.B	
66	*4-391-835-01	PLATE (C), SHIELD	
67	*4-374-912-01	COVER (MAIN), CV VOL	
68	*4-374-913-01	COVER (REAR LID), CV VOL	
69 ⚠	.1-426-145-13	COIL, DEGAUSSING	
70	4-307-249-00	SCREW (5), TAPPING	
71	4-391-833-01	CLOTH, PROTECTION	
72	4-391-839-01	COVER, REAR	
73	X-4391-810-1	COVER ASSY, TOP	
74	4-391-825-01	RIVET, NYLON	
75 ⚠	.*4-364-745-01	BUSHING, AC CORD	
76 ⚠	.1-574-389-12	CORD, POWER (WITH CONNECTOR)	
77	4-308-870-00	CLIP, LEAD WIRE	
78	1-452-032-00	MAGNET, DISK; 10 ø	
79	1-452-094-00	MAGNET, ROTATABLE DISK; 15 ø	
80	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
82	*1-629-153-11	J BOARD	
83	1-543-604-11	CORE, RING	
84	4-847-802-11	SCREW (OS), CASE, CLAW	
85	1-452-277-00	MAGNET, BMC	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

SECTION 8

ELECTRICAL PARTS LIST

BA

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1135-573-A	BA BOARD, COMPLETE ******************			
		<CONNECTOR>			
BA1	*1-565-491-11	CONNECTOR, BOARD TO BOARD 15P			
BA2	*1-565-491-11	CONNECTOR, BOARD TO BOARD 15P			
		<FILTER>			
BPF243	1-236-363-11	FILTER, BAND PASS			
BPF244	1-236-364-11	FILTER, BAND PASS			
CFM201	1-464-880-11	FILTER BLOCK, COM (CFB-2)			
		<CAPACITOR>			
C201	1-124-120-11	ELECT	220MF	20%	25V
C202	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C203	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C207	1-124-477-11	ELECT	47MF	20%	25V
C208	1-124-477-11	ELECT	47MF	20%	25V
C209	1-124-477-11	ELECT	47MF	20%	25V
C210	1-124-477-11	ELECT	47MF	20%	25V
C211	1-124-477-11	ELECT	47MF	20%	25V
C212	1-124-477-11	ELECT	47MF	20%	25V
C213	1-124-477-11	ELECT	47MF	20%	25V
C214	1-101-004-00	CERAMIC	0.01MF		50V
C221	1-124-902-00	ELECT	0.47MF	20%	50V
C222	1-124-464-11	ELECT	0.22MF	20%	50V
C223	1-102-963-00	CERAMIC	33PF	5%	50V
C224	1-101-888-00	CERAMIC	68PF	5%	50V
C230	1-124-120-11	ELECT	220MF	20%	25V
C240	1-101-004-00	CERAMIC	0.01MF		50V
C241	1-124-120-11	ELECT	220MF	20%	25V
C242	1-124-478-11	ELECT	100MF	20%	25V
C243	1-124-120-11	ELECT	220MF	20%	25V
C245	1-101-004-00	CERAMIC	0.01MF		50V
C246	1-123-875-11	ELECT	10MF	20%	50V
C247	1-101-004-00	CERAMIC	0.01MF		50V
C248	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C250	1-161-021-11	CERAMIC	0.047MF	10%	25V
C251	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C252	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C253	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C254	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C255	1-101-004-00	CERAMIC	0.01MF		50V
C265	1-102-978-00	CERAMIC	220PF	5%	50V
C266	1-101-003-00	CERAMIC	0.0047MF		50V
C267	1-124-478-11	ELECT	100MF	20%	25V
C268	1-101-003-00	CERAMIC	0.0047MF		50V
C269	1-102-978-00	CERAMIC	220PF	5%	50V
C271	1-101-004-00	CERAMIC	0.01MF		50V
C272	1-101-002-00	CERAMIC	0.0022MF		50V
C273	1-101-002-00	CERAMIC	0.0022MF		50V
C280	1-108-624-11	MYLAR	0.0068MF	10%	100V
C281	1-124-478-11	ELECT	100MF	20%	25V
C292	1-101-004-00	CERAMIC	0.01MF		50V
C401	1-123-875-11	ELECT	10MF	20%	50V
C402	1-101-888-00	CERAMIC	68PF	5%	50V
C403	1-102-116-00	CERAMIC	680PF	10%	50V
C404	1-136-161-00	FILM	0.047MF	5%	50V
C405	1-102-074-00	CERAMIC	0.001MF	10%	50V
C406	1-124-477-11	ELECT	47MF	20%	25V
C407	1-101-890-00	CERAMIC	75PF	5%	50V
C408	1-102-960-00	CERAMIC	27PF	5%	50V
C409	1-136-165-00	FILM	0.1MF	5%	50V
C410	1-136-165-00	FILM	0.1MF	5%	50V
C411	1-136-165-00	FILM	0.1MF	5%	50V
C412	1-102-129-00	CERAMIC	0.01MF	10%	50V
C413	1-124-499-11	ELECT	1MF	20%	50V
C414	1-136-173-00	FILM	0.47MF	5%	50V
C415	1-123-875-11	ELECT	10MF	20%	50V
C416	1-102-118-00	CERAMIC	0.0012MF	10%	50V
C417	1-124-477-11	ELECT	47MF	20%	25V
C418	1-124-499-11	ELECT	1MF	20%	50V
C419	1-124-478-11	ELECT	100MF	20%	25V
C420	1-136-165-00	FILM	0.1MF	5%	50V
C421	1-102-961-00	CERAMIC	27PF	5%	50V
C422	1-136-165-00	FILM	0.1MF	5%	50V
C423	1-123-875-11	ELECT	10MF	20%	50V
C424	1-136-165-00	FILM	0.1MF	5%	50V
C425	1-101-361-00	CERAMIC	150PF	5%	50V
C426	1-101-890-00	CERAMIC	75PF	5%	50V
C427	1-124-120-11	ELECT	220MF	20%	25V
C428	1-124-477-11	ELECT	47MF	20%	25V
C429	1-124-477-11	ELECT	47MF	20%	25V
C430	1-101-004-00	CERAMIC	0.01MF		50V
C431	1-101-884-00	CERAMIC	56PF	5%	50V
C432	1-101-004-00	CERAMIC	0.01MF		50V
C433	1-124-478-11	ELECT	100MF	20%	25V
C434	1-101-884-00	CERAMIC	56PF	5%	50V
C435	1-101-884-00	CERAMIC	56PF	5%	50V
C441	1-102-963-00	CERAMIC	33PF	5%	50V
C442	1-161-021-11	CERAMIC	0.047MF	10%	25V
		<MODULE>			
CTR210	1-236-366-11	MODULE, TRAP			
CTR211	1-236-365-11	MODULE, TRAP			
PCM290	1-808-628-11	MODULE, PHASE PHM-1			
SEP270	1-808-654-11	MODULE			

BA

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<DIODE>	
D210	8-719-911-19	DIODE 1SS119	
D211	8-719-911-19	DIODE 1SS119	
D212	8-719-911-19	DIODE 1SS119	
D240	8-719-110-16	DIODE RD10ES-B1	
D280	8-719-911-19	DIODE 1SS119	
D401	8-719-911-19	DIODE 1SS119	
D402	8-719-911-19	DIODE 1SS119	
		<DELAY LINE>	
DL230	1-415-632-11	DELAY LINE, Y	
		<IC>	
FPG280	8-749-920-73	IC BX7595	
IC201	8-759-800-81	IC LA7016	
IC210	8-759-240-53	IC TC4053BP	
IC250	8-759-800-81	IC LA7016	
IC260	8-759-208-14	IC TC4066BPHB	
IC261	8-759-208-14	IC TC4066BPHB	
IC401	8-751-750-00	IC CX-175	
		<COIL>	
L280	1-410-509-11	INDUCTOR 10UH	
L282	1-410-470-11	INDUCTOR 10UH	
L401	1-410-087-31	INDUCTOR 10MMH	
L402	1-408-411-00	INDUCTOR 15UH	
L403	1-404-496-00	COIL	
L404	1-408-411-00	INDUCTOR 15UH	
L405	1-404-496-00	COIL	
L406	1-410-470-11	INDUCTOR 10UH	
L408	1-410-336-11	INDUCTOR 220UH	
		<TRANSISTOR>	
Q201	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q210	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q211	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q212	8-729-900-89	TRANSISTOR DTC144ES	
Q213	8-729-900-89	TRANSISTOR DTC144ES	
Q214	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q221	8-729-900-89	TRANSISTOR DTC144ES	
Q222	8-729-900-63	TRANSISTOR DTA124ES	
Q230	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q231	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q232	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q233	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q234	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q240	8-729-140-96	TRANSISTOR 2SD774- 34	
Q241	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q242	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q243	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q258	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q259	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q260	8-729-900-89	TRANSISTOR DTC144ES	
Q261	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q262	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q263	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q264	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q265	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q280	8-729-900-89	TRANSISTOR DTC144ES	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q401	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q402	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q403	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q404	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q405	8-729-900-63	TRANSISTOR DTA124ES	
Q406	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q407	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q408	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q409	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q410	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q411	8-729-119-76	TRANSISTOR 2SA1175-HFE	
		<RESISTOR>	
JW95	1-249-411-11	CARBON 330 5% 1/4W	
R201	1-249-435-11	CARBON 33K 5% 1/4W	
R202	1-249-435-11	CARBON 33K 5% 1/4W	
R203	1-249-405-11	CARBON 100 5% 1/4W	
R204	1-249-421-11	CARBON 2.2K 5% 1/4W	
R205	1-249-433-11	CARBON 22K 5% 1/4W	
R206	1-249-432-11	CARBON 18K 5% 1/4W	
R207	1-249-409-11	CARBON 220 5% 1/4W	
R210	1-249-437-11	CARBON 47K 5% 1/4W	
R211	1-249-437-11	CARBON 47K 5% 1/4W	
R212	1-249-437-11	CARBON 47K 5% 1/4W	
R213	1-249-429-11	CARBON 10K 5% 1/4W	
R214	1-249-433-11	CARBON 22K 5% 1/4W	
R215	1-249-437-11	CARBON 47K 5% 1/4W	
R216	1-249-429-11	CARBON 10K 5% 1/4W	
R217	1-249-429-11	CARBON 10K 5% 1/4W	
R218	1-249-425-11	CARBON 4.7K 5% 1/4W	
R219	1-249-405-11	CARBON 100 5% 1/4W	
R220	1-249-428-11	CARBON 8.2K 5% 1/4W	
R221	1-249-423-11	CARBON 3.3K 5% 1/4W	
R222	1-249-439-11	CARBON 68K 5% 1/4W	
R224	1-249-439-11	CARBON 68K 5% 1/4W	
R225	1-249-439-11	CARBON 68K 5% 1/4W	
R226	1-249-439-11	CARBON 68K 5% 1/4W	
R227	1-249-386-11	CARBON 2.7 5% 1/4W	F
R228	1-249-433-11	CARBON 22K 5% 1/4W	
R229	1-249-433-11	CARBON 22K 5% 1/4W	
R230	1-249-429-11	CARBON 10K 5% 1/4W	
R231	1-249-422-11	CARBON 2.7K 5% 1/4W	
R232	1-249-415-11	CARBON 680 5% 1/4W	
R233	1-249-415-11	CARBON 680 5% 1/4W	
R234	1-249-411-11	CARBON 330 5% 1/4W	
R235	1-249-416-11	CARBON 820 5% 1/4W	
R236	1-249-411-11	CARBON 330 5% 1/4W	
R237	1-249-411-11	CARBON 330 5% 1/4W	
R238	1-249-405-11	CARBON 100 5% 1/4W	
R239	1-249-417-11	CARBON 1K 5% 1/4W	
R240	1-249-407-11	CARBON 150 5% 1/4W	
R241	1-247-895-00	CARBON 470K 5% 1/4W	
R242	1-249-421-11	CARBON 2.2K 5% 1/4W	
R243	1-249-435-11	CARBON 33K 5% 1/4W	
R244	1-249-435-11	CARBON 33K 5% 1/4W	
R245	1-249-422-11	CARBON 2.7K 5% 1/4W	
R246	1-249-435-11	CARBON 33K 5% 1/4W	
R247	1-249-435-11	CARBON 33K 5% 1/4W	
R248	1-249-422-11	CARBON 2.7K 5% 1/4W	
R249	1-249-432-11	CARBON 18K 5% 1/4W	
R250	1-249-405-11	CARBON 100 5% 1/4W	
R251	1-249-433-11	CARBON 22K 5% 1/4W	
R252	1-249-421-11	CARBON 2.2K 5% 1/4W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R253	1-249-415-11	CARBON 680 5% 1/4W	
R254	1-249-420-11	CARBON 1.8K 5% 1/4W	
R255	1-249-417-11	CARBON 1K 5% 1/4W	
R256	1-249-405-11	CARBON 100 5% 1/4W	
R257	1-249-417-11	CARBON 1K 5% 1/4W	
R258	1-249-405-11	CARBON 100 5% 1/4W	
R259	1-249-441-11	CARBON 100K 5% 1/4W	
R260	1-249-425-11	CARBON 4.7K 5% 1/4W	
R261	1-247-891-00	CARBON 330K 5% 1/4W	
R262	1-249-435-11	CARBON 33K 5% 1/4W	
R263	1-249-422-11	CARBON 2.7K 5% 1/4W	
R264	1-249-422-11	CARBON 2.7K 5% 1/4W	
R268	1-249-417-11	CARBON 1K 5% 1/4W	
R270	1-249-417-11	CARBON 1K 5% 1/4W	
R271	1-249-417-11	CARBON 1K 5% 1/4W	
R272	1-249-417-11	CARBON 1K 5% 1/4W	
R273	1-249-426-11	CARBON 5.6K 5% 1/4W	
R274	1-249-429-11	CARBON 10K 5% 1/4W	
R275	1-249-413-11	CARBON 470 5% 1/4W	
R276	1-249-417-11	CARBON 1K 5% 1/4W	
R277	1-247-891-00	CARBON 330K 5% 1/4W	
R278	1-247-891-00	CARBON 330K 5% 1/4W	
R279	1-249-429-11	CARBON 10K 5% 1/4W	
R280	1-249-429-11	CARBON 10K 5% 1/4W	
R281	1-249-429-11	CARBON 10K 5% 1/4W	
R282	1-249-429-11	CARBON 10K 5% 1/4W	
R283	1-249-429-11	CARBON 10K 5% 1/4W	
R284	1-249-429-11	CARBON 10K 5% 1/4W	
R285	1-249-429-11	CARBON 10K 5% 1/4W	
R290	1-249-441-11	CARBON 100K 5% 1/4W	
R291	1-249-413-11	CARBON 470 5% 1/4W	
R292	1-249-435-11	CARBON 33K 5% 1/4W	
R293	1-249-435-11	CARBON 33K 5% 1/4W	
R294	1-249-405-11	CARBON 100 5% 1/4W	
R295	1-249-405-11	CARBON 100 5% 1/4W	
R296	1-249-405-11	CARBON 100 5% 1/4W	
R297	1-249-405-11	CARBON 100 5% 1/4W	
R299	1-249-429-11	CARBON 10K 5% 1/4W	
R401	1-249-419-11	CARBON 1.5K 5% 1/4W	
R403	1-247-881-00	CARBON 120K 5% 1/4W	
R405	1-215-429-00	METAL 2.2K 1% 1/6W	
R406	1-249-429-11	CARBON 10K 5% 1/4W	
R407	1-249-422-11	CARBON 2.7K 5% 1/4W	
R408	1-249-414-11	CARBON 560 5% 1/4W	
R409	1-249-421-11	CARBON 2.2K 5% 1/4W	
R410	1-249-419-11	CARBON 1.5K 5% 1/4W	
R411	1-249-419-11	CARBON 1.5K 5% 1/4W	
R412	1-249-423-11	CARBON 3.3K 5% 1/4W	
R413	1-249-434-11	CARBON 27K 5% 1/4W	
R414	1-247-895-00	CARBON 470K 5% 1/4W	
R415	1-249-412-11	CARBON 390 5% 1/4W	
R416	1-249-415-11	CARBON 680 5% 1/4W	
R417	1-249-409-11	CARBON 220 5% 1/4W	
R418	1-249-425-11	CARBON 4.7K 5% 1/4W	
R419	1-249-433-11	CARBON 22K 5% 1/4W	
R420	1-215-432-00	METAL 3K 1% 1/6W	
R421	1-249-419-11	CARBON 1.5K 5% 1/4W	
R422	1-249-419-11	CARBON 1.5K 5% 1/4W	
R423	1-249-421-11	CARBON 2.2K 5% 1/4W	
R424	1-249-429-11	CARBON 10K 5% 1/4W	
R425	1-249-414-11	CARBON 560 5% 1/4W	
R426	1-249-422-11	CARBON 2.7K 5% 1/4W	
R427	1-249-423-11	CARBON 3.3K 5% 1/4W	
R428	1-249-412-11	CARBON 390 5% 1/4W	
R429	1-249-425-11	CARBON 4.7K 5% 1/4W	
R430	1-249-408-11	CARBON 180 5% 1/4W	
R431	1-249-411-11	CARBON 330 5% 1/4W	
R432	1-249-422-11	CARBON 2.7K 5% 1/4W	
R433	1-249-437-11	CARBON 47K 5% 1/4W	
R435	1-249-433-11	CARBON 22K 5% 1/4W	
R436	1-249-437-11	CARBON 47K 5% 1/4W	
R437	1-249-437-11	CARBON 47K 5% 1/4W	
R438	1-249-437-11	CARBON 47K 5% 1/4W	
R439	1-249-426-11	CARBON 5.6K 5% 1/4W	
R440	1-249-437-11	CARBON 47K 5% 1/4W	
R441	1-249-440-11	CARBON 82K 5% 1/4W	
R442	1-249-405-11	CARBON 100 5% 1/4W	
R443	1-249-405-11	CARBON 100 5% 1/4W	
R444	1-249-432-11	CARBON 18K 5% 1/4W	
R445	1-249-432-11	CARBON 18K 5% 1/4W	
R446	1-249-437-11	CARBON 47K 5% 1/4W	
R447	1-249-437-11	CARBON 47K 5% 1/4W	
R448	1-249-435-11	CARBON 33K 5% 1/4W	
R449	1-249-417-11	CARBON 1K 5% 1/4W	

<VARIABLE RESISTOR>

RV290	1-228-994-00	RES, ADJ, CARBON 10K	
RV291	1-228-991-00	RES, ADJ, CARBON 2.2K	
RV292	1-228-991-00	RES, ADJ, CARBON 2.2K	

<TRANSFORMER>

T401	1-404-584-11	COIL	

****

*1-629-150-11 Y BOARD
****

<CAPACITOR>

C1500	1-124-499-11	ELECT 1MF 20% 50V	
C1501	1-102-125-00	CERAMIC 0.0047MF 10% 50V	

<IC>

IC1500	8-759-909-70	IC CX23025	

<TRANSISTOR>

Q1500	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1502	8-729-900-63	TRANSISTOR DTA124ES	

<RESISTOR>

R1500	1-249-437-11	CARBON 47K 5% 1/4W	
R1501	1-249-437-11	CARBON 47K 5% 1/4W	
R1502	1-249-437-11	CARBON 47K 5% 1/4W	F
R1503	1-249-429-11	CARBON 10K 5% 1/4W	
R1504	1-249-437-11	CARBON 47K 5% 1/4W	
R1505	1-249-437-11	CARBON 47K 5% 1/4W	

<CONNECTOR>

Y1	*1-565-481-11	CONNECTOR, BOARD TO BOARD 5P	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1330-986-A	C BOARD, COMPLETE ******************	
	⚠1-526-819-11	SOCKET, PICTURE TUBE	
	*4-374-912-01	COVER (MAIN), CV VOL	
	*4-374-913-01	COVER (REAR LID), CV VOL	

<CONNECTOR>

C1	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P
C2	*1-506-371-00	PIN, CONNECTOR 2P
C3	*1-564-513-11	PLUG, CONNECTOR 10P

<CAPACITOR>

C701	1-102-115-00	CERAMIC	560PF	10%	50V
C702	1-102-115-00	CERAMIC	560PF	10%	50V
C703	1-102-115-00	CERAMIC	560PF	10%	50V
C704	1-102-121-00	CERAMIC	0.0022MF	10%	50V
C705	1-123-875-11	ELECT	10MF	20%	50V
C706	1-102-074-00	CERAMIC	0.001MF	10%	50V
C707	1-162-116-00	CERAMIC	680PF	10%	2KV
C708	1-136-601-11	FILM	0.01MF	10%	630V
C713	1-108-704-11	MYLAR	0.1MF	10%	200V
C714	1-102-116-00	CERAMIC	680PF	10%	50V
C715	1-102-116-00	CERAMIC	680PF	10%	50V
C716	1-102-116-00	CERAMIC	680PF	10%	50V
C717	1-162-116-00	CERAMIC	680PF	10%	2KV
C718	1-162-115-00	CERAMIC	330PF	10%	2KV
C720	1-162-116-00	CERAMIC	680PF	10%	2KV
C721	1-162-116-00	CERAMIC	680PF	10%	2KV
C722	1-162-116-00	CERAMIC	680PF	10%	2KV

<DIODE>

D701	8-719-911-19	DIODE 1SS119
D702	8-719-911-19	DIODE 1SS119
D703	8-719-911-19	DIODE 1SS119
D704	8-719-911-19	DIODE 1SS119
D705	8-719-911-19	DIODE 1SS119
D706	8-719-911-19	DIODE 1SS119
D707	8-719-901-83	DIODE 1SS83
D708	8-719-901-83	DIODE 1SS83
D709	8-719-901-83	DIODE 1SS83
D713	8-719-901-83	DIODE 1SS83
D715	8-719-901-83	DIODE 1SS83
D716	8-719-901-83	DIODE 1SS83
D717	8-719-901-83	DIODE 1SS83

<FILTER>

FL701	1-236-388-11	FILTER, EMI
FL702	1-236-388-11	FILTER, EMI
FL703	1-236-388-11	FILTER, EMI

<TRANSISTOR>

Q701	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q703	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q704	8-729-200-17	TRANSISTOR 2SA1091
Q705	8-729-200-17	TRANSISTOR 2SA1091
Q706	8-729-200-17	TRANSISTOR 2SA1091
Q707	8-729-326-11	TRANSISTOR 2SC2611
Q708	8-729-326-11	TRANSISTOR 2SC2611
Q709	8-729-326-11	TRANSISTOR 2SC2611
Q710	8-729-200-17	TRANSISTOR 2SA1091
Q711	8-729-200-17	TRANSISTOR 2SA1091
Q712	8-729-200-17	TRANSISTOR 2SA1091
Q713	8-729-255-12	TRANSISTOR 2SC2551
Q714	8-729-255-12	TRANSISTOR 2SC2551
Q715	8-729-178-55	TRANSISTOR 2SC2785-E
Q716	8-729-178-55	TRANSISTOR 2SC2785-E
Q717	8-729-178-55	TRANSISTOR 2SC2785-E

<RESISTOR>

R702	1-215-480-00	METAL	300K	1%	1/6W	
R704	1-215-408-00	METAL	300	1%	1/6W	
R705	1-249-410-11	CARBON	270	5%	1/4W	
R706	1-249-410-11	CARBON	270	5%	1/4W	
R707	1-249-420-11	CARBON	1.8K	5%	1/4W	
R708	1-249-419-11	CARBON	1.5K	5%	1/4W	
R709	1-249-420-11	CARBON	1.8K	5%	1/4W	
R710	1-249-397-11	CARBON	22	5%	1/4W	
R711	1-249-397-11	CARBON	22	5%	1/4W	
R712	1-249-397-11	CARBON	22	5%	1/4W	
R715	1-202-818-00	SOLID	1K	10%	1/2W	
R716	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R717	1-202-818-00	SOLID	1K	10%	1/2W	
R718	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R719	1-202-818-00	SOLID	1K	10%	1/2W	
R720	1-216-486-00	METAL OXIDE	8.2K	5%	3W	F
R721	1-216-372-11	METAL OXIDE	1.8	5%	2W	F
R722	1-202-848-00	SOLID	680K	10%	1/2W	
R723	1-202-838-00	SOLID	100K	10%	1/2W	
R724	1-202-842-11	SOLID	220K	10%	1/2W	
R725	1-202-719-00	SOLID	1M	10%	1/2W	
R731	1-249-409-11	CARBON	220	5%	1/4W	
R732	1-249-409-11	CARBON	220	5%	1/4W	
R733	1-249-409-11	CARBON	220	5%	1/4W	
R734	1-249-409-11	CARBON	220	5%	1/4W	F
R735	1-249-409-11	CARBON	220	5%	1/4W	F
R736	1-249-409-11	CARBON	220	5%	1/4W	F
R737	1-249-405-11	CARBON	100	5%	1/4W	
R738	1-249-405-11	CARBON	100	5%	1/4W	
R739	1-249-405-11	CARBON	100	5%	1/4W	
R740	1-249-429-11	CARBON	10K	5%	1/4W	F
R741	1-249-429-11	CARBON	10K	5%	1/4W	F
R742	1-249-429-11	CARBON	10K	5%	1/4W	F
R743	1-249-441-11	CARBON	100K	5%	1/4W	
R744	1-249-429-11	CARBON	10K	5%	1/4W	
R745	1-249-429-11	CARBON	10K	5%	1/4W	
R746	1-215-902-11	METAL OXIDE	47K	5%	1W	F
R747	1-247-725-11	CARBON	10K	5%	1/4W	F
R748	1-247-713-11	CARBON	1K	5%	1/4W	F
R749	1-215-902-11	METAL OXIDE	47K	5%	2W	F
R750	1-249-400-11	CARBON	39	5%	1/4W	F
R751	1-247-887-00	CARBON	220K	5%	1/4W	
R752	1-247-887-00	CARBON	220K	5%	1/4W	
R753	1-247-887-00	CARBON	220K	5%	1/4W	

<VARIABLE RESISTOR>

RV707	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M
RV708	1-230-798-11	RES, ADJ, METAL GLAZE 90M
RV709	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

*1-629-148-11 V BOARD
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1700	1-124-120-11	ELECT	220MF	20%	25V	
C1701	1-101-004-00	CERAMIC	0.01MF		50V	
C1702	1-102-978-00	CERAMIC	220PF	5%	50V	
C1703	1-102-978-00	CERAMIC	220PF	5%	50V	
C1705	1-124-499-11	ELECT	1MF	20%	50V	
C1706	1-124-499-11	ELECT	1MF	20%	50V	
C1707	1-124-120-11	ELECT	220MF	20%	25V	
C1710	1-101-884-00	CERAMIC	56PF	5%	50V	
C1711	1-101-884-00	CERAMIC	56PF	5%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1700	8-719-911-19	DIODE 1SS119	
D1701	8-719-936-56	DIODE DAN209S	
D1702	8-719-936-56	DIODE DAN209S	
D1703	8-719-936-56	DIODE DAN209S	
D1704	8-719-936-56	DIODE DAN209S	
D1705	8-719-933-28	DIODE DAP209S	
D1706	8-719-933-28	DIODE DAP209S	
D1707	8-719-911-19	DIODE 1SS119	
D1708	8-719-911-19	DIODE 1SS119	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1700	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1701	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1703	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1704	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1706	8-729-900-89	TRANSISTOR DTC144ES	
Q1707	8-729-900-89	TRANSISTOR DTC144ES	
Q1708	8-729-115-30	TRANSISTOR 2SK105A-30	
Q1709	8-729-115-30	TRANSISTOR 2SK105A-30	
Q1710	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1711	8-729-119-78	TRANSISTOR 2SC2785-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1700	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1701	1-249-413-11	CARBON	470	5%	1/4W	
R1702	1-249-413-11	CARBON	470	5%	1/4W	
R1703	1-249-413-11	CARBON	470	5%	1/4W	
R1704	1-249-413-11	CARBON	470	5%	1/4W	
R1705	1-247-885-00	CARBON	180K	5%	1/4W	
R1706	1-249-437-11	CARBON	47K	5%	1/4W	
R1707	1-247-883-00	CARBON	150K	5%	1/4W	
R1708	1-249-437-11	CARBON	47K	5%	1/4W	
R1709	1-249-429-11	CARBON	10K	5%	1/4W	
R1710	1-249-438-11	CARBON	56K	5%	1/4W	
R1711	1-249-429-11	CARBON	10K	5%	1/4W	
R1712	1-249-429-11	CARBON	10K	5%	1/4W	
R1713	1-249-429-11	CARBON	10K	5%	1/4W	
R1714	1-249-429-11	CARBON	10K	5%	1/4W	
R1715	1-249-429-11	CARBON	10K	5%	1/4W	
R1716	1-249-438-11	CARBON	56K	5%	1/4W	
R1717	1-249-429-11	CARBON	10K	5%	1/4W	
R1718	1-249-429-11	CARBON	10K	5%	1/4W	
R1719	1-249-417-11	CARBON	1K	5%	1/4W	
R1720	1-249-429-11	CARBON	10K	5%	1/4W	
R1721	1-249-429-11	CARBON	10K	5%	1/4W	
R1722	1-249-429-11	CARBON	10K	5%	1/4W	
R1723	1-249-429-11	CARBON	10K	5%	1/4W	
R1724	1-249-429-11	CARBON	10K	5%	1/4W	
R1725	1-247-891-00	CARBON	330K	5%	1/4W	
R1726	1-247-891-00	CARBON	330K	5%	1/4W	
R1727	1-249-437-11	CARBON	47K	5%	1/4W	
R1728	1-249-437-11	CARBON	47K	5%	1/4W	
R1729	1-249-405-11	CARBON	100	5%	1/4W	
R1730	1-249-405-11	CARBON	100	5%	1/4W	
R1731	1-249-417-11	CARBON	1K	5%	1/4W	
R1732	1-249-417-11	CARBON	1K	5%	1/4W	
R1733	1-249-409-11	CARBON	220	5%	1/4W	
R1734	1-249-409-11	CARBON	220	5%	1/4W	
R1750	1-249-423-11	CARBON	3.3K	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV1700	1-228-995-00	RES, ADJ, CARBON 22K	
RV1701	1-228-995-00	RES, ADJ, CARBON 22K	
RV1702	1-228-995-00	RES, ADJ, CARBON 22K	
RV1703	1-228-995-00	RES, ADJ, CARBON 22K	
RV1704	1-237-524-21	RES, ADJ, CARBON 1M	
RV1705	1-228-999-00	RES, ADJ, CARBON 470K	
RV1706	1-228-999-00	RES, ADJ, CARBON 470K	
RV1707	1-237-524-21	RES, ADJ, CARBON 1M	
RV1708	1-228-995-00	RES, ADJ, CARBON 22K	
RV1709	1-228-995-00	RES, ADJ, CARBON 22K	
RV1710	1-228-995-00	RES, ADJ, CARBON 22K	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
V1	*1-563-720-11	SOCKET, CONNECTOR (PC BOARD)9P	
V2	*1-563-720-11	SOCKET, CONNECTOR (PC BOARD)9P	

****

*A-1245-465-A FE BOARD, COMPLETE
****

*4-341-751-01 EYELET
*4-341-752-01 EYELET
4-363-414-00 SPACER, MICA

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C602⚠	.1-161-830-51	CERAMIC	0.0047MF		500V	
C603⚠	.1-161-830-51	CERAMIC	0.0047MF		500V	
C604⚠	.1-161-830-51	CERAMIC	0.0047MF		500V	
C605⚠	.1-161-830-51	CERAMIC	0.0047MF		500V	
C606	1-125-222-41	ELECT(BLOCK)	330MF	20%	400V	
C607⚠	.1-136-360-51	FILM	0.22MF	20%	250V	
C608⚠	.1-136-360-51	FILM	0.22MF	20%	250V	
C611	1-102-973-00	CERAMIC	100PF	5%	50V	
C612	1-161-754-00	CERAMIC	0.001MF	10%	3KV	
C613	1-123-946-00	ELECT	4.7MF	20%	250V	
C614	1-136-067-00	FILM	0.0036MF	3%	2KV	
C615	1-129-765-00	FILM	0.047MF	10%	200V	
C616	1-124-798-11	ELECT	1MF	20%	160V	
C617	1-124-902-00	ELECT	0.47MF	20%	50V	
C618	1-162-318-11	CERAMIC	0.001MF	10%	500V	

FE

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C619	1-123-875-11	ELECT	10MF	20%	50V
C620	1-124-446-11	ELECT	47MF	20%	10V
C621	1-130-475-00	FILM	0.0022MF	5%	50V
C622	1-104-067-00	POLYSTYRENE	390PF	5%	50V
C623	1-126-233-11	ELECT	22MF	20%	25V
C624	1-162-318-11	CERAMIC	0.001MF	10%	500V
C625	1-124-463-00	ELECT	0.1MF	20%	50V
C626	1-161-973-00	CERAMIC	220PF	10%	400V
C627	1-136-066-00	FILM	0.003MF	3%	2KV
C631	1-162-116-00	CERAMIC	680PF	10%	2KV
C633	1-162-131-11	CERAMIC	220PF	10%	2KV
C651	1-125-494-11	ELECT(BLOCK)	560MF	20%	160V
C654	1-102-030-00	CERAMIC	330PF	10%	500V
C656	1-102-030-00	CERAMIC	330PF	10%	500V
C657	1-161-973-00	CERAMIC	220PF	10%	400V
C658	1-124-499-11	ELECT	1MF	20%	50V
C659	1-108-614-11	MYLAR	0.001MF	10%	100V
C660⚠.	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C661⚠.	1-162-578-51	CERAMIC	0.0047MF	20%	400V
C671	1-126-103-11	ELECT	470MF	20%	16V
C674	1-126-105-11	ELECT	1000MF	20%	35V
C675	1-162-116-00	CERAMIC	680PF	10%	2KV
C676	1-102-973-00	CERAMIC	100PF	5%	50V

<DIODE>

D601⚠.	8-719-503-06	DIODE S3WB60Z
D605	8-719-911-19	DIODE 1SS119
D606	8-719-110-90	DIODE 1SS119
D607	8-719-110-90	DIODE RD39ES-B4
D608	8-719-114-17	DIODE RD39ES-B4
D611	8-719-118-34	DIODE RD110E-B
D612	8-719-300-33	DIODE RU-3AM
D613	8-719-200-02	DIODE 10E2
D614	8-719-300-33	DIODE RU-3AM
D615	8-719-109-97	DIODE RD6.8ES-B2
D616	8-719-300-33	DIODE RU-3AM
D617	8-719-911-19	DIODE 1SS119
D619	8-719-911-19	DIODE 1SS119
D620	8-719-300-33	DIODE RU-3AM
D622	8-719-110-49	DIODE RD18ES-B2
D651	8-719-300-33	DIODE RU-3AM
D652	8-719-200-02	DIODE 10E2
D653	8-719-300-76	DIODE RH1A
D654	8-719-911-19	DIODE 1SS119
D655	8-719-110-41	DIODE RD15ES-B2

<CONNECTOR>

F1	*1-568-106-11	PIN, CONNECTOR 7P
F3	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P
F5	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P
F6	*1-506-371-00	PIN, CONNECTOR 2P
F7	*1-568-106-11	PIN, CONNECTOR 7P

<FUSE>

F601⚠.	1-532-350-11	FUSE, TIME-LAG 4A/250V
	*1-533-189-11	HOLDER, FUSE; F601

<IC>

IC601	8-759-100-75	IC UPC1394C
IC602	8-719-939-00	IC PC111S
IC651	8-759-927-49	IC IR9431

REF.NO.	PART NO.	DESCRIPTION				REMARK

<COIL>

L621	1-407-365-00	COIL, CHOKE	
L622	1-408-226-00	INDUCTOR	82UH
L623	1-410-397-21	FERRITE BEAD INDUCTOR	
L624⚠.	1-410-396-31	FERRITE BEAD INDUCTOR	
L625⚠.	1-410-396-31	FERRITE BEAD INDUCTOR	
L626⚠.	1-459-946-11	COIL, NOISE FILTER	
L627⚠.	1-459-946-11	COIL, NOISE FILTER	

<IC LINK>

PS602⚠.	1-532-838-21	LINK, IC 125V

<TRANSISTOR>

Q611	8-729-119-80	TRANSISTOR 2SC2688-LK
Q612	8-729-119-80	TRANSISTOR 2SC2688-LK
Q613	8-729-802-14	TRANSISTOR 2SC3460
Q614	8-729-119-80	TRANSISTOR 2SC2688-LK
Q615	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q617	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

R601	1-205-712-00	WIREWOUND	3.9	5%	20W	
R602⚠.	1-214-945-21	METAL	2.2M	1%	1/2W	
R603⚠.	1-247-721-51	CARBON	4.7K	5%	1/4W	F
R604⚠.	1-247-721-51	CARBON	4.7K	5%	1/4W	F
R605	1-202-720-00	SOLID	1.2M	10%	1/2W	
R606	1-249-423-11	CARBON	3.3K	5%	1/4W	
R610	1-249-405-11	CARBON	100	5%	1/4W	
R611	1-216-444-11	METAL OXIDE	82K	5%	1W	F
R612	1-216-444-11	METAL OXIDE	82K	5%	1W	F
R613	1-249-496-11	CARBON	100K	5%	1/2W	F
R614	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R615	1-247-887-00	CARBON	220K	5%	1/4W	
R616	1-247-711-11	CARBON	680	5%	1/4W	
R617	1-247-725-11	CARBON	10K	5%	1/4W	
R618	1-249-396-11	CARBON	18	5%	1/4W	
R619	1-247-710-11	CARBON	560	5%	1/4W	F
R620	1-217-192-21	WIREWOUND	0.22	10%	2W	F
R621	1-249-423-11	CARBON	3.3K	5%	1/4W	
R622	1-249-434-11	CARBON	27K	5%	1/4W	
R623	1-215-457-00	METAL	33K	1%	1/6W	
R624	1-249-429-11	CARBON	10K	5%	1/4W	
R625	1-247-726-11	CARBON	33K	5%	1/4W	
R626	1-249-411-11	CARBON	330	5%	1/4W	
R627	1-249-438-11	CARBON	56K	5%	1/4W	
R628	1-247-887-00	CARBON	220K	5%	1/4W	
R629	1-249-428-11	CARBON	8.2K	5%	1/4W	
R630	1-249-436-11	CARBON	39K	5%	1/4W	
R631	1-249-424-11	CARBON	3.9K	5%	1/4W	
R632	1-247-753-11	CARBON	1.2K	5%	1/2W	F
R633	1-249-441-11	CARBON	100K	5%	1/4W	
R634	1-249-417-11	CARBON	1K	5%	1/4W	
R635	1-205-928-11	WIREWOUND	180	10%	10W	
R636	1-205-927-11	WIREWOUND	2.2K	10%	10W	
R637	1-216-465-11	METAL OXIDE	27K	5%	2W	F
R640	1-249-438-11	CARBON	56K	5%	1/4W	
R644	1-247-885-00	CARBON	180K	5%	1/4W	
R648	1-247-887-00	CARBON	220K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R651	1-247-881-00	CARBON	120K	5%	1/4W	
R652	1-215-924-00	METAL OXIDE	15K	5%	3W	F
R653	1-249-417-11	CARBON	1K	5%	1/4W	
R654	1-247-881-00	CARBON	120K	5%	1/4W	
R655	1-249-469-11	CARBON	100K	5%	1/4W	
R656	1-247-895-00	CARBON	470K	5%	1/4W	
R657	1-247-883-00	CARBON	150K	5%	1/4W	
R658 ⚠	1-247-289-11	CARBON	8.2M	5%	1W	
R661	1-249-443-11	CARBON	0.47	5%	1/4W	F
R665	1-249-420-11	CARBON	1.8K	5%	1/4W	
R669	1-249-443-11	CARBON	0.47	5%	1/4W	F
R671	1-249-410-11	CARBON	270	5%	1/4W	
R682	1-215-923-00	METAL OXIDE	10K	5%	3W	F
R688	1-249-427-11	CARBON	6.8K	5%	1/4W	
R691	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R692	1-202-719-00	SOLID	1M	10%	1/2W	

<VARIABLE RESISTOR>

RV601	1-230-504-11	RES, ADJ, CARBON 220

<TRANSFORMER>

T602	1-437-079-00	TRANSFORMER, HORIZONTAL DRIVE
T603 ⚠	1-448-895-11	SRT
T604 ⚠	1-421-776-11	LFT
T605 ⚠	1-421-758-11	TRANSFORMER, LINE FILTER (LFT)

<THERMISTOR>

TH611	1-800-200-00	THERMISTOR S-3K
THP601 ⚠	1-808-059-21	THERMISTOR, POSITIVE

****

*A-1270-247-A QC BOARD, COMPLETE
****

1-537-191-11	TERMINAL BOARD, INPUT/OUTPUT
1-537-192-11	TERMINAL BOARD, INPUT/OUTPUT
*3-682-419-01	HOLDER, P.C.B
*4-379-104-01	INSULATOR, SLIDE SW

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C101	1-124-589-11	ELECT	47MF	20%	16V	
C102	1-126-160-11	ELECT	1MF	20%	50V	
C103	1-126-160-11	ELECT	1MF	20%	50V	
C104	1-161-021-11	CERAMIC	0.047MF	10%	25V	
C105	1-126-160-11	ELECT	1MF	20%	50V	
C106	1-126-160-11	ELECT	1MF	20%	50V	
C107	1-124-589-11	ELECT	47MF	20%	16V	
C108	1-124-589-11	ELECT	47MF	20%	16V	
C109	1-124-589-11	ELECT	47MF	20%	16V	
C110	1-124-589-11	ELECT	47MF	20%	16V	
C111	1-124-589-11	ELECT	47MF	20%	16V	
C112	1-124-589-11	ELECT	47MF	20%	16V	
C113	1-124-589-11	ELECT	47MF	20%	16V	
C114	1-126-160-11	ELECT	1MF	20%	50V	
C115	1-126-160-11	ELECT	1MF	20%	50V	
C116	1-124-589-11	ELECT	47MF	20%	16V	
C117	1-126-157-11	ELECT	10MF	20%	16V	
C118	1-126-157-11	ELECT	10MF	20%	16V	
C119	1-126-157-11	ELECT	10MF	20%	16V	
C120	1-124-589-11	ELECT	47MF	20%	16V	
C122	1-124-589-11	ELECT	47MF	20%	16V	
C123	1-124-589-11	ELECT	47MF	20%	16V	

<IC>

IC101	8-759-800-81	IC LA7016

<TRANSISTOR>

Q122	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R101	1-249-429-11	CARBON	10K	5%	1/4W	
R102	1-249-405-11	CARBON	100	5%	1/4W	
R103	1-249-429-11	CARBON	10K	5%	1/4W	
R104	1-249-405-11	CARBON	100	5%	1/4W	
R105	1-247-104-00	CARBON	75	5%	1/4W	
R106	1-249-405-11	CARBON	100	5%	1/4W	
R107	1-247-104-00	CARBON	75	5%	1/4W	
R108	1-249-405-11	CARBON	100	5%	1/4W	
R109	1-247-104-00	CARBON	75	5%	1/4W	
R110	1-247-104-00	CARBON	75	5%	1/4W	
R111	1-249-429-11	CARBON	10K	5%	1/4W	
R112	1-249-405-11	CARBON	100	5%	1/4W	
R113	1-249-429-11	CARBON	10K	5%	1/4W	
R114	1-247-104-00	CARBON	75	5%	1/4W	
R115	1-249-405-11	CARBON	100	5%	1/4W	
R116	1-247-704-11	CARBON	220	5%	1/4W	
R117	1-247-703-11	CARBON	180	5%	1/4W	
R118	1-247-703-11	CARBON	180	5%	1/4W	
R119	1-249-417-11	CARBON	1K	5%	1/4W	
R121	1-249-417-11	CARBON	1K	5%	1/4W	
R122	1-215-393-00	METAL	68	1%	1/6W	
R123	1-249-417-11	CARBON	1K	5%	1/4W	
R125	1-249-405-11	CARBON	100	5%	1/4W	
R126	1-249-433-11	CARBON	22K	5%	1/4W	
R127	1-249-433-11	CARBON	22K	5%	1/4W	
R128	1-249-429-11	CARBON	10K	5%	1/4W	
R129	1-247-104-00	CARBON	75	5%	1/4W	
R130	1-247-104-00	CARBON	75	5%	1/4W	
R131	1-247-104-00	CARBON	75	5%	1/4W	
R132	1-249-417-11	CARBON	1K	5%	1/4W	
R133	1-247-104-00	CARBON	75	5%	1/4W	
R134	1-249-417-11	CARBON	1K	5%	1/4W	
R220	1-215-429-00	METAL	2.2K	1%	1/6W	
R221	1-215-429-00	METAL	2.2K	1%	1/6W	
R222	1-215-429-00	METAL	2.2K	1%	1/6W	
R254	1-249-420-11	CARBON	1.8K	5%	1/4W	
R298	1-249-431-11	CARBON	15K	5%	1/4W	

<VARIABLE RESISTOR>

RV101	1-228-848-00	RES, VAR, CARBON 10K
RV102	1-228-848-00	RES, VAR, CARBON 10K

<SWITCH>

S101	1-570-145-11	SWITCH, SLIDE

****

*A-1270-248-A QD BOARD, COMPLETE
****

*3-682-419-01	HOLDER, P.C.B

QD

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C121	1-126-094-11	ELECT	4.7MF	20%	25V	
C124	1-101-004-00	CERAMIC	0.01MF		50V	
C125	1-124-477-11	ELECT	47MF	20%	16V	
C126	1-124-589-11	ELECT	47MF	20%	16V	
C127	1-101-004-00	CERAMIC	0.01MF		50V	
C128	1-124-589-11	ELECT	47MF	20%	16V	
C129	1-124-589-11	ELECT	47MF	20%	16V	
C130	1-124-584-00	ELECT	100MF	20%	10V	
C131	1-161-021-11	CERAMIC	0.047MF	10%	25V	
C132	1-102-963-00	CERAMIC	33PF	5%	50V	
C133	1-126-157-11	ELECT	10MF	20%	16V	
C134	1-161-021-11	CERAMIC	0.047MF	10%	25V	
C135	1-106-375-12	MYLAR	0.022MF	10%	100V	
C136	1-101-004-00	CERAMIC	0.01MF		50V	
C137	1-124-589-11	ELECT	47MF	20%	16V	
C138	1-124-589-11	ELECT	47MF	20%	16V	
C139	1-126-160-11	ELECT	1MF	20%	50V	
C140	1-124-589-11	ELECT	47MF	20%	16V	
C141	1-102-965-00	CERAMIC	39PF	5%	50V	
C142	1-102-965-00	CERAMIC	39PF	5%	50V	
C143	1-102-965-00	CERAMIC	39PF	5%	50V	
C144	1-126-094-11	ELECT	4.7MF	20%	25V	
C145	1-161-021-11	CERAMIC	0.047MF	10%	25V	
C146	1-124-589-11	ELECT	47MF	20%	16V	
C147	1-124-589-11	ELECT	47MF	20%	16V	
C148	1-126-157-11	ELECT	10MF	20%	16V	
C149	1-130-728-00	FILM	0.0022MF	10%	50V	
C150	1-130-483-00	MYLAR	0.01MF	5%	50V	
C151	1-130-471-00	FILM	0.001MF	10%	50V	
C172	1-101-005-00	CERAMIC	0.022MF		50V	
C173	1-136-169-00	FILM	0.22MF	5%	50V	
C174	1-102-965-00	CERAMIC	39PF	5%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D102	8-719-110-03	DIODE RD7.5ES-B2	
D103	8-719-911-19	DIODE 1SS119	
D104	8-719-911-19	DIODE 1SS119	
D105	8-719-911-19	DIODE 1SS119	
D106	8-719-109-85	DIODE RD5.1ES-B2	
D107	8-719-109-85	DIODE RD5.1ES-B2	
D113	8-719-911-19	DIODE 1SS119	
D116	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC102	8-759-900-09	IC SN74LS09N	
IC103	8-759-901-38	IC SN74LS138N	
IC104	8-759-901-36	IC SN74LS136N	
IC105	8-759-900-11	IC SN74LS11N	
IC106	8-759-800-81	IC LA7016	
IC107	8-759-933-23	IC BA236	

<FILTER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
LP101	1-235-988-11	FILTER MODULE, LOW PASS	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q101	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q102	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q103	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q104	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q105	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q107	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q108	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q109	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q110	8-729-900-36	TRANSISTOR DTC124ES	
Q111	8-729-900-89	TRANSISTOR DTC144ES	
Q112	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q113	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q114	8-729-900-36	TRANSISTOR DTC124ES	
Q115	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q125	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q131	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q132	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q135	8-729-900-65	TRANSISTOR DTA144ES	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R135	1-249-417-11	CARBON	1K	5%	1/4W	
R136	1-249-411-11	CARBON	330	5%	1/4W	
R137	1-249-418-11	CARBON	1.2K	5%	1/4W	
R138	1-249-421-11	CARBON	2.2K	5%	1/4W	
R139	1-249-424-11	CARBON	3.9K	5%	1/4W	
R140	1-249-417-11	CARBON	1K	5%	1/4W	
R141	1-249-425-11	CARBON	4.7K	5%	1/4W	
R142	1-249-435-11	CARBON	33K	5%	1/4W	
R143	1-249-435-11	CARBON	33K	5%	1/4W	
R144	1-249-417-11	CARBON	1K	5%	1/4W	
R145	1-249-411-11	CARBON	330	5%	1/4W	
R146	1-249-417-11	CARBON	1K	5%	1/4W	
R147	1-249-411-11	CARBON	330	5%	1/4W	
R148	1-249-429-11	CARBON	10K	5%	1/4W	
R149	1-249-425-11	CARBON	4.7K	5%	1/4W	
R150	1-249-417-11	CARBON	1K	5%	1/4W	
R151	1-249-429-11	CARBON	10K	5%	1/4W	
R152	1-249-429-11	CARBON	10K	5%	1/4W	
R153	1-249-405-11	CARBON	100	5%	1/4W	
R154	1-249-405-11	CARBON	100	5%	1/4W	
R155	1-249-433-11	CARBON	22K	5%	1/4W	
R156	1-249-433-11	CARBON	22K	5%	1/4W	
R157	1-249-430-11	CARBON	12K	5%	1/4W	
R158	1-249-417-11	CARBON	1K	5%	1/4W	
R159	1-247-706-11	CARBON	330	5%	1/4W	
R160	1-247-706-11	CARBON	330	5%	1/4W	
R161	1-247-706-11	CARBON	330	5%	1/4W	
R162	1-249-426-11	CARBON	5.6K	5%	1/4W	
R163	1-249-421-11	CARBON	2.2K	5%	1/4W	
R164	1-249-421-11	CARBON	2.2K	5%	1/4W	
R165	1-249-425-11	CARBON	4.7K	5%	1/4W	
R166	1-249-425-11	CARBON	4.7K	5%	1/4W	
R167	1-247-721-11	CARBON	4.7K	5%	1/4W	
R168	1-249-421-11	CARBON	2.2K	5%	1/4W	
R169	1-249-433-11	CARBON	22K	5%	1/4W	
R170	1-249-437-11	CARBON	47K	5%	1/4W	
R171	1-247-725-11	CARBON	10K	5%	1/4W	
R172	1-249-405-11	CARBON	100	5%	1/4W	
R173	1-247-716-11	CARBON	1.8K	5%	1/4W	
R174	1-249-432-11	CARBON	18K	5%	1/4W	
R175	1-249-408-11	CARBON	180	5%	1/4W	
R176	1-249-437-11	CARBON	47K	5%	1/4W	
R178	1-249-418-11	CARBON	1.2K	5%	1/4W	
R179	1-247-713-11	CARBON	1K	5%	1/4W	

QD QE

REF.NO.	PART NO.	DESCRIPTION	REMARK
R220	1-249-429-11	CARBON 10K 5% 1/4W	
R221	1-249-437-11	CARBON 47K 5% 1/4W	
R222	1-249-437-11	CARBON 47K 5% 1/4W	
R223	1-249-417-11	CARBON 1K 5% 1/4W	
R224	1-249-429-11	CARBON 10K 5% 1/4W	
R225	1-249-425-11	CARBON 4.7K 5% 1/4W	
R226	1-249-409-11	CARBON 220 5% 1/4W	
R231	1-249-432-11	CARBON 18K 5% 1/4W	
R235	1-249-425-11	CARBON 4.7K 5% 1/4W	
R236	1-249-417-11	CARBON 1K 5% 1/4W	
R237	1-249-420-11	CARBON 1.8K 5% 1/4W	
R241	1-249-408-11	CARBON 180 5% 1/4W	
R242	1-249-405-11	CARBON 100 5% 1/4W	
R244	1-249-405-11	CARBON 100 5% 1/4W	
R260	1-249-433-11	CARBON 22K 5% 1/4W	
R261	1-249-433-11	CARBON 22K 5% 1/4W	
R263	1-249-405-11	CARBON 100 5% 1/4W	
R299	1-249-420-11	CARBON 1.8K 5% 1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV103	1-228-995-00	RES, ADJ, CARBON 22K	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S102	1-553-977-41	SWITCH, SLIDE	

****

*A-1270-249-A QE BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C152	1-101-004-00	CERAMIC 0.01MF 50V	
C154	1-123-875-11	ELECT 10MF 20% 50V	
C155	1-124-499-11	ELECT 1MF 20% 50V	
C156	1-124-499-11	ELECT 1MF 20% 50V	
C157	1-126-160-11	ELECT 1MF 20% 50V	
C158	1-124-477-11	ELECT 47MF 20% 25V	
C159	1-126-160-11	ELECT 1MF 20% 50V	
C160	1-124-499-11	ELECT 1MF 20% 50V	
C161	1-124-477-11	ELECT 47MF 20% 16V	
C162	1-124-477-11	ELECT 47MF 20% 16V	
C163	1-124-477-11	ELECT 47MF 20% 16V	
C164	1-161-021-11	CERAMIC 0.047MF 10% 25V	
C165	1-124-477-11	ELECT 47MF 20% 16V	
C166	1-124-477-11	ELECT 47MF 20% 16V	
C167	1-124-477-11	ELECT 47MF 20% 16V	
C168	1-124-589-11	ELECT 47MF 20% 16V	
C169	1-161-021-11	CERAMIC 0.047MF 10% 25V	
C170	1-124-477-11	ELECT 47MF 20% 25V	
C171	1-124-925-11	ELECT 2.2MF 20% 50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D108	8-719-911-19	DIODE 1SS119	
D109	8-719-911-19	DIODE 1SS119	
D110	8-719-911-19	DIODE 1SS119	
D111	8-719-911-19	DIODE 1SS119	
D112	8-719-911-19	DIODE 1SS119	
D114	8-719-911-19	DIODE 1SS119	
D115	8-719-911-19	DIODE 1SS119	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC108	8-759-800-81	IC LA7016	
IC109	8-759-800-81	IC LA7016	
IC110	8-759-800-81	IC LA7016	
IC111	8-759-710-31	IC NJM2243S	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q116	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q117	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q118	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q119	8-729-900-36	TRANSISTOR DTC124ES	
Q120	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q121	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q127	8-729-900-65	TRANSISTOR DTA144ES	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
QE1	*1-564-515-11	PLUG, CONNECTOR 12P	
QE2	*1-564-516-11	PLUG, CONNECTOR 13P	
QE3	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R180	1-249-405-11	CARBON 100 5% 1/4W	
R181	1-249-412-11	CARBON 390 5% 1/4W	
R182	1-249-417-11	CARBON 1K 5% 1/4W	
R183	1-249-436-11	CARBON 39K 5% 1/4W	
R184	1-249-435-11	CARBON 33K 5% 1/4W	
R185	1-249-405-11	CARBON 100 5% 1/4W	
R186	1-249-433-11	CARBON 22K 5% 1/4W	
R187	1-249-433-11	CARBON 22K 5% 1/4W	
R188	1-249-405-11	CARBON 100 5% 1/4W	
R189	1-249-433-11	CARBON 22K 5% 1/4W	
R190	1-249-433-11	CARBON 22K 5% 1/4W	
R192	1-249-437-11	CARBON 47K 5% 1/4W	
R193	1-249-429-11	CARBON 10K 5% 1/4W	
R194	1-249-433-11	CARBON 22K 5% 1/4W	
R195	1-249-433-11	CARBON 22K 5% 1/4W	
R196	1-249-405-11	CARBON 100 5% 1/4W	
R197	1-249-421-11	CARBON 2.2K 5% 1/4W	
R198	1-249-421-11	CARBON 2.2K 5% 1/4W	
R199	1-249-441-11	CARBON 100K 5% 1/4W	
R200	1-249-435-11	CARBON 33K 5% 1/4W	
R201	1-249-428-11	CARBON 8.2K 5% 1/4W	
R202	1-249-417-11	CARBON 1K 5% 1/4W	
R203	1-249-429-11	CARBON 10K 5% 1/4W	
R204	1-249-428-11	CARBON 8.2K 5% 1/4W	
R205	1-249-405-11	CARBON 100 5% 1/4W	
R206	1-249-429-11	CARBON 10K 5% 1/4W	
R207	1-249-429-11	CARBON 10K 5% 1/4W	
R208	1-249-417-11	CARBON 1K 5% 1/4W	
R209	1-249-405-11	CARBON 100 5% 1/4W	
R210	1-249-433-11	CARBON 22K 5% 1/4W	
R211	1-249-433-11	CARBON 22K 5% 1/4W	
R212	1-249-433-11	CARBON 22K 5% 1/4W	
R213	1-249-433-11	CARBON 22K 5% 1/4W	
R215	1-249-405-11	CARBON 100 5% 1/4W	
R216	1-249-411-11	CARBON 330 5% 1/4W	
R217	1-249-433-11	CARBON 22K 5% 1/4W	
R251	1-249-417-11	CARBON 1K 5% 1/4W	
R252	1-249-417-11	CARBON 1K 5% 1/4W	
R253	1-249-417-11	CARBON 1K 5% 1/4W	
R265	1-249-415-11	CARBON 680 5% 1/4W	

A

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*A-1296-520-A	A BOARD, COMPLETE *****************			
	*4-329-153-00	HEAT SINK, V OUT			
	*4-341-751-01	EYELET			
	*4-341-752-01	EYELET			
	*4-363-404-00	HOLDER, IC			
	4-363-414-00	SPACER, MICA			
		<CONNECTOR>			
A1	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P			
A2	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P			
A3	*1-565-498-11	CONNECTOR, BOARD TO BOARD 7P			
A4	*1-564-596-11	PLUG, CONNECTOR 15P			
A5	*1-564-596-11	PLUG, CONNECTOR 15P			
A6	*1-565-497-11	CONNECTOR, BOARD TO BOARD 6P			
A7	*1-565-498-11	CONNECTOR, BOARD TO BOARD 7P			
A8	*1-565-506-11	CONNECTOR, BOARD TO BOARD 15P			
A9	*1-565-506-11	CONNECTOR, BOARD TO BOARD 15P			
A10	*1-564-596-11	PLUG, CONNECTOR 15P			
A11	*1-564-596-41	PLUG, CONNECTOR 15P			
A13	*1-568-105-11	HOUSING, CONNECTOR 10P			
A14	*1-568-105-11	HOUSING, CONNECTOR 10P			
A16	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P			
A17	*1-565-496-11	CONNECTOR, BOARD TO BOARD 5P			
A18	*1-564-038-00	CONNECTOR PLUG, DY (MINI) 6P			
A19	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P			
A20	*1-564-507-11	PLUG, CONNECTOR 4P			
A22	*1-564-505-11	PLUG, CONNECTOR 2P			
		<CAPACITOR>			
C300	1-123-875-11	ELECT	10MF	20%	50V
C301	1-124-477-11	ELECT	47MF	20%	25V
C302	1-101-884-00	CERAMIC	56PF	5%	50V
C303	1-136-173-00	FILM	0.47MF	5%	50V
C304	1-101-884-00	CERAMIC	56PF	5%	50V
C305	1-136-173-00	FILM	0.47MF	5%	50V
C306	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C307	1-124-477-11	ELECT	47MF	20%	25V
C308	1-124-477-11	ELECT	47MF	20%	25V
C309	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C310	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C311	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C312	1-123-875-11	ELECT	10MF	20%	50V
C313	1-102-074-00	CERAMIC	0.001MF	10%	50V
C314	1-102-074-00	CERAMIC	0.001MF	10%	50V
C315	1-124-927-11	ELECT	4.7MF	20%	50V
C316	1-136-161-00	FILM	0.047MF	5%	50V
C317	1-136-161-00	FILM	0.047MF	5%	50V
C318	1-136-165-00	FILM	0.1MF	5%	50V
C319	1-101-004-00	CERAMIC	0.01MF		50V
C320	1-124-499-11	ELECT	1MF	20%	50V
C321	1-124-477-11	ELECT	47MF	20%	25V
C322	1-124-902-00	ELECT	0.47MF	20%	50V
C323	1-101-361-00	CERAMIC	150PF	5%	50V
C324	1-124-477-11	ELECT	47MF	20%	25V
C325	1-101-361-00	CERAMIC	150PF	5%	50V
C326	1-124-477-11	ELECT	47MF	20%	25V
C327	1-124-477-11	ELECT	47MF	20%	25V
C328	1-124-009-11	ELECT	47MF	20%	25V
C329	1-124-477-11	ELECT	47MF	20%	25V
C330	1-101-880-00	CERAMIC	47PF	5%	50V
C331	1-101-004-00	CERAMIC	0.01MF		50V
C332	1-102-971-00	CERAMIC	82PF	5%	50V
C333	1-136-165-00	FILM	0.1MF	5%	50V
C334	1-136-173-00	FILM	0.47MF	5%	50V
C335	1-136-173-00	FILM	0.47MF	5%	50V
C336	1-102-971-00	CERAMIC	82PF	5%	50V
C337	1-124-477-11	ELECT	47MF	20%	25V
C338	1-124-477-11	ELECT	47MF	20%	25V
C339	1-124-477-11	ELECT	47MF	20%	25V
C340	1-124-477-11	ELECT	47MF	20%	25V
C341	1-124-477-11	ELECT	47MF	20%	25V
C342	1-124-477-11	ELECT	47MF	20%	25V
C343	1-124-477-11	ELECT	47MF	20%	25V
C344	1-124-477-11	ELECT	47MF	20%	25V
C345	1-102-949-00	CERAMIC	12PF	5%	50V
C346	1-126-233-11	ELECT	22MF	20%	50V
C347	1-123-875-11	ELECT	10MF	20%	50V
C348	1-101-004-00	CERAMIC	0.01MF		50V
C349	1-124-120-11	ELECT	220MF	20%	25V
C350	1-101-884-00	CERAMIC	56PF	5%	50V
C351	1-102-106-00	CERAMIC	100PF	10%	50V
C352	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C353	1-161-021-11	CERAMIC	0.047MF	10%	25V
C401	1-136-153-00	FILM	0.01MF	5%	50V
C402	1-136-165-00	FILM	0.1MF	5%	50V
C403	1-136-165-00	FILM	0.1MF	5%	50V
C404	1-136-169-00	FILM	0.22MF	5%	50V
C405	1-136-169-00	FILM	0.22MF	5%	50V
C406	1-136-169-00	FILM	0.22MF	5%	50V
C407	1-136-169-00	FILM	0.22MF	5%	50V
C408	1-136-169-00	FILM	0.22MF	5%	50V
C409	1-136-169-00	FILM	0.22MF	5%	50V
C410	1-124-499-11	ELECT	1MF	20%	50V
C411	1-124-499-11	ELECT	1MF	20%	50V
C412	1-124-463-00	ELECT	0.1MF	20%	50V
C413	1-124-463-00	ELECT	0.1MF	20%	50V
C414	1-136-165-00	FILM	0.1MF	5%	50V
C415	1-136-165-00	FILM	0.1MF	5%	50V
C416	1-126-233-11	ELECT	22MF	20%	50V
C417	1-136-161-00	FILM	0.047MF	5%	50V
C418	1-136-153-00	FILM	0.01MF	5%	50V
C419	1-130-479-00	MYLAR	0.0047MF	5%	50V
C420	1-136-161-00	FILM	0.047MF	5%	50V
C421	1-136-153-00	FILM	0.01MF	5%	50V
C422	1-130-479-00	MYLAR	0.0047MF	5%	50V
C423	1-136-153-00	FILM	0.01MF	5%	50V
C424	1-130-479-00	MYLAR	0.0047MF	5%	50V
C425	1-124-478-11	ELECT	100MF	20%	25V
C426	1-136-161-00	FILM	0.047MF	5%	50V
C427	1-124-478-11	ELECT	100MF	20%	25V
C428	1-124-478-11	ELECT	100MF	20%	25V
C429	1-102-944-00	CERAMIC	7PF	1PF	50V
C430	1-101-888-00	CERAMIC	68PF	5%	50V
C431	1-101-888-00	CERAMIC	68PF	5%	50V
C470	1-124-120-11	ELECT	220MF	20%	25V
C471	1-124-120-11	ELECT	220MF	20%	25V
C472	1-101-004-00	CERAMIC	0.01MF		50V
C473	1-124-478-11	ELECT	100MF	20%	25V
C474	1-101-004-00	CERAMIC	0.01MF		50V
C475	1-101-004-00	CERAMIC	0.01MF		50V
C476	1-101-888-00	CERAMIC	68PF	5%	50V
C477	1-101-006-00	CERAMIC	0.047MF		50V

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C478	1-101-004-00	CERAMIC	0.01MF		50V
C479	1-124-478-11	ELECT	100MF	20%	25V
C480	1-101-004-00	CERAMIC	0.01MF		50V
C481	1-101-004-00	CERAMIC	0.01MF		50V
C482	1-124-478-11	ELECT	100MF	20%	25V
C483	1-124-120-11	ELECT	220MF	20%	25V
C484	1-101-004-00	CERAMIC	0.01MF		50V
C485	1-124-478-11	ELECT	100MF	20%	25V
C486	1-101-004-00	CERAMIC	0.01MF		50V
C487	1-101-004-00	CERAMIC	0.01MF		50V
C488	1-124-120-11	ELECT	220MF	20%	25V
C489	1-124-927-11	ELECT	4.7MF	20%	50V
C491	1-101-004-00	CERAMIC	0.01MF		50V
C492	1-124-120-11	ELECT	220MF	20%	25V
C493	1-101-004-00	CERAMIC	0.01MF		50V
C494	1-124-120-11	ELECT	220MF	20%	25V
C495	1-101-880-00	CERAMIC	47PF	5%	50V
C496	1-124-478-11	ELECT	100MF	20%	25V
C497	1-124-120-11	ELECT	220MF	20%	25V
C498	1-124-925-11	ELECT	2.2MF	20%	50V
C500	1-101-884-00	CERAMIC	56PF	5%	50V
C501	1-124-120-11	ELECT	220MF	20%	25V
C502	1-124-927-11	ELECT	4.7MF	20%	50V
C503	1-124-927-11	ELECT	4.7MF	20%	50V
C504	1-102-114-00	CERAMIC	470PF	10%	50V
C505	1-123-875-11	ELECT	10MF	20%	50V
C506	1-136-298-00	FILM	0.0033MF	5%	100V
C507	1-106-351-00	MYLAR	0.0022MF	5%	100V
C508	1-108-626-11	MYLAR	0.01MF	10%	100V
C509	1-106-375-12	MYLAR	0.022MF	10%	100V
C510	1-108-626-11	MYLAR	0.01MF	10%	100V
C511	1-124-902-00	ELECT	0.47MF	20%	50V
C512	1-102-030-00	CERAMIC	330PF	10%	500V
C513	1-129-720-00	FILM	0.033MF	5%	630V
C514 ⚠	1-136-078-11	FILM	0.0098MF	3%	2KV
C515 ⚠	1-162-116-51	CERAMIC	680PF	10%	2KV
C516 ⚠	1-162-116-51	CERAMIC	680PF	10%	2KV
C517	1-108-692-11	MYLAR	0.01MF	10%	200V
C518	1-126-104-11	ELECT	470MF	20%	35V
C519	1-124-120-11	ELECT	220MF	20%	25V
C520	1-124-494-00	ELECT	33MF		160V
C521	1-102-212-00	CERAMIC	820PF	10%	500V
C522	1-102-212-00	CERAMIC	820PF	10%	500V
C523	1-162-114-00	CERAMIC	0.0047MF		2KV
C524	1-108-700-11	MYLAR	0.047MF	10%	200V
C525	1-108-634-11	MYLAR	0.047MF	10%	100V
C526	1-124-477-11	ELECT	47MF	20%	25V
C527	1-124-902-00	ELECT	0.47MF	20%	50V
C528	1-124-902-00	ELECT	0.47MF	20%	50V
C529	1-126-233-11	ELECT	22MF	20%	50V
C530	1-123-875-11	ELECT	10MF	20%	50V
C531	1-131-351-00	TANTALUM	4.7MF	10%	35V
C532	1-123-948-00	ELECT	22MF	20%	250V
C533	1-136-111-00	FILM	1MF	5%	200V
C534	1-106-399-00	MYLAR	0.22MF	10%	200V
C535	1-123-946-00	ELECT	4.7MF	20%	250V
C536	1-136-111-00	FILM	1MF	5%	200V
C537	1-102-002-00	CERAMIC	680PF	10%	500V
C538	1-108-626-11	MYLAR	0.01MF	10%	100V
C539	1-108-626-11	MYLAR	0.01MF	10%	100V
C540	1-106-347-00	MYLAR	0.0015MF	10%	100V
C541	1-124-045-00	ELECT	4.7MF	20%	50V
C542	1-123-875-11	ELECT	10MF	20%	50V
C543	1-124-927-11	ELECT	4.7MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C544	1-124-190-00	ELECT	680MF	10%	25V
C545	1-106-371-00	MYLAR	0.015MF	10%	200V
C546	1-102-030-00	CERAMIC	330PF	10%	500V
C547	1-124-342-00	ELECT	3.3MF	20%	160V
C548	1-102-030-00	CERAMIC	330PF	10%	500V
C549	1-123-875-11	ELECT	10MF	20%	50V
C550	1-102-244-00	CERAMIC	220PF	10%	500V
C551	1-124-360-00	ELECT	1000MF	20%	16V
C552	1-124-499-11	ELECT	1MF	20%	50V
C553	1-108-626-11	MYLAR	0.01MF	10%	100V
C554	1-124-499-11	ELECT	1MF	20%	50V
C555	1-108-633-11	MYLAR	0.039MF	10%	100V
C556	1-136-173-00	FILM	0.47MF	5%	50V
C557	1-124-902-00	ELECT	0.47MF	20%	50V
C558	1-131-356-00	TANTALUM	3.3MF	10%	25V
C559	1-123-875-11	ELECT	10MF	20%	50V
C560	1-136-161-00	FILM	0.047MF	5%	50V
C561	1-102-973-00	CERAMIC	100PF	5%	50V
C562	1-130-471-00	FILM	0.001MF	5%	50V
C563	1-123-875-11	ELECT	10MF	20%	50V
C564	1-102-978-00	CERAMIC	220PF	5%	50V
C565	1-124-478-11	ELECT	100MF	20%	25V
C566	1-124-499-11	ELECT	1MF	20%	50V
C567	1-123-875-11	ELECT	10MF	20%	50V
C568	1-108-614-11	MYLAR	0.001MF	10%	100V
C569	1-130-736-11	FILM	0.01MF	5%	50V
C570	1-123-875-11	ELECT	10MF	20%	50V
C571	1-126-233-11	ELECT	22MF	20%	25V
C572	1-124-499-11	ELECT	1MF	20%	50V
C573	1-123-875-11	ELECT	10MF	20%	50V
C574	1-124-478-11	ELECT	100MF	20%	25V
C575	1-102-978-00	CERAMIC	220PF	5%	50V
C576	1-161-021-11	CERAMIC	0.047MF	10%	25V
C577	1-123-875-11	ELECT	10MF	20%	50V
C578	1-124-477-11	ELECT	47MF	20%	25V
C579	1-124-477-11	ELECT	47MF	20%	25V
C580	1-124-499-11	ELECT	1MF	20%	50V
C581	1-124-478-11	ELECT	100MF	20%	25V
C583	1-126-233-11	ELECT	22MF	20%	50V
C584	1-126-233-11	ELECT	22MF	20%	50V
C585	1-102-110-00	CERAMIC	220PF	10%	50V
C590	1-126-233-11	ELECT	22MF	20%	50V
C591	1-124-925-11	ELECT	2.2MF	20%	50V
C801	1-101-004-00	CERAMIC	0.01MF		50V
C802	1-101-361-00	CERAMIC	150PF	5%	50V
C803	1-102-976-00	CERAMIC	180PF	5%	50V
C804	1-126-233-11	ELECT	22MF	20%	50V
C805	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C806	1-101-884-00	CERAMIC	56PF	5%	50V
C807	1-130-736-11	FILM	0.01MF	5%	50V
C808	1-124-120-11	ELECT	220MF	20%	25V
C809	1-101-004-00	CERAMIC	0.01MF		50V
C810	1-108-620-11	MYLAR	0.0033MF	10%	100V
C811	1-124-927-11	ELECT	4.7MF	20%	50V
C1001	1-124-478-11	ELECT	100MF	20%	25V
C1002	1-123-875-11	ELECT	10MF	20%	50V
C1003	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C1004	1-124-464-11	ELECT	0.22MF	20%	50V
C1005	1-123-875-11	ELECT	10MF	20%	50V
C1006	1-123-875-11	ELECT	10MF	20%	50V
C1007	1-108-634-11	MYLAR	0.047MF	10%	100V
C1008	1-124-478-11	ELECT	100MF	20%	25V
C1009	1-124-480-11	ELECT	470MF	20%	25V

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
C1010	1-124-478-11	ELECT 100MF 20%	25V
C1011	1-124-477-11	ELECT 47MF 20%	25V
C1012	1-124-120-11	ELECT 220MF 20%	25V
C1013	1-124-478-11	ELECT 100MF 20%	25V

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D302	8-719-911-19	DIODE 1SS119	
D303	8-719-911-19	DIODE 1SS119	
D304	8-719-911-19	DIODE 1SS119	
D305	8-719-911-19	DIODE 1SS119	
D306	8-719-911-19	DIODE 1SS119	
D307	8-719-911-19	DIODE 1SS119	
D308	8-719-911-19	DIODE 1SS119	
D309	8-719-911-19	DIODE 1SS119	
D311	8-719-911-19	DIODE 1SS119	
D312	8-719-911-19	DIODE 1SS119	
D313	8-719-911-19	DIODE 1SS119	
D314	8-719-911-19	DIODE 1SS119	
D400	8-719-121-40	DIODE RD10ES-L3	
D401	8-719-911-19	DIODE 1SS119	
D402	8-719-120-27	DIODE RD4.3ES-L2	
D403	8-719-109-93	DIODE RD6.2ES-B2	
D404	8-719-911-19	DIODE 1SS119	
D405	8-719-911-19	DIODE 1SS119	
D501	8-719-911-19	DIODE 1SS119	
D502	8-719-971-20	DIODE ERC38-06	
D503	8-719-971-20	DIODE ERC38-06	
D504	8-719-901-58	DIODE RGP15J	
D505	8-719-901-58	DIODE RGP15J	
D506	8-719-901-19	DIODE V11N	
D507	8-719-945-80	DIODE ERC06-15S	
D508	8-719-928-08	DIODE ERD28-08S	
D509	8-719-109-89	DIODE RD5.6ES-B2	
D510	8-719-190-00	DIODE RD24E-BZ7	
D511	8-719-200-02	DIODE 10E2	
D512	8-719-200-02	DIODE 10E2	
D513	8-719-911-19	DIODE 1SS119	
D514	8-719-300-76	DIODE RH-1A	
D515	8-719-300-76	DIODE RH-1A	
D516	8-719-200-02	DIODE 10E2	
D517	8-719-911-19	DIODE 1SS119	
D518	8-719-200-02	DIODE 10E2	
D519	8-719-911-19	DIODE 1SS119	
D520	8-719-911-19	DIODE 1SS119	
D521	8-719-911-19	DIODE 1SS119	
D522	8-719-911-19	DIODE 1SS119	
D523	8-719-911-19	DIODE 1SS119	
D524	8-719-911-19	DIODE 1SS119	
D526	8-719-911-19	DIODE 1SS119	
D527	8-719-911-19	DIODE 1SS119	
D528	8-719-911-19	DIODE 1SS119	
D529	8-719-911-19	DIODE 1SS119	
D530	8-719-901-83	DIODE 1SS83	
D531	8-719-911-19	DIODE 1SS119	
D801	8-719-911-19	DIODE 1SS119	
D802	8-719-911-19	DIODE 1SS119	
D1001	8-719-911-19	DIODE 1SS119	
D1002	8-719-911-19	DIODE 1SS119	
D1003	8-719-911-19	DIODE 1SS119	
D1010	8-719-120-64	DIODE RD5.6ES-L1	
D1011	8-719-110-08	DIODE RD8.2ES-B2	
D1012	8-719-911-55	DIODE U05G	
D1013	8-719-110-37	DIODE RD13ES-B3	

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1014	8-719-936-56	DIODE DAN209S	

<DELAY LINE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
DL301	1-415-633-11	DELAY LINE, Y	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC301	8-759-204-21	IC TA7193P	
IC302	1-808-627-11	ACC BLOCK ACC-1	
IC303	8-759-710-31	IC NJM2243S	
IC304	1-235-534-11	CONTROL MODULE, PICTURE	
IC305	8-749-920-72	IC BX-7573	
IC306	8-759-420-08	IC AN5613	
IC307	1-808-629-11	MODULE, BLUE ONLY BOM-1	
IC308	1-808-626-11	MODULE, GAIN/BIAS GBM-1	
IC309	8-759-208-08	IC TC4052BPHB	
IC311	8-759-800-81	IC LA7016	
IC312	8-759-800-81	IC LA7016	
IC401	8-752-030-31	IC CXA1024S	
IC501	8-759-100-60	IC UPC1377C	
IC502	8-759-145-58	IC UPC4558C	
IC503	8-749-920-74	IC BX7574	
IC504	8-759-345-38	IC HD14538BP	
IC505	8-759-982-13	IC RC7812FA	
IC1001	8-759-420-04	IC AN5265	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L300	1-410-470-11	INDUCTOR 10UH	
L301	1-410-470-11	INDUCTOR 10UH	
L302	1-410-470-11	INDUCTOR 10UH	
L303	1-410-471-11	INDUCTOR 12UH	
L304	1-408-406-00	INDUCTOR 5.6UH	
L306	1-410-470-11	INDUCTOR 10UH	
L307	1-408-406-00	INDUCTOR 5.6UH	
L495	1-421-013-00	COIL, (HOLIZONTAL CHOKE) 25UH	
L501	1-459-155-00	COIL (WITH CORE) 45UH	
L502	1-410-671-31	INDUCTOR 47UH	
L503	1-410-666-31	INDUCTOR 18UH	
L504	1-407-365-00	COIL, CHOKE	
L505	1-407-365-00	COIL, CHOKE	
L506	1-408-238-00	INDUCTOR 3.9MMH	
L507	1-459-155-00	COIL (WITH CORE) 45UH	
L508	1-459-496-12	COIL, FERRITE (HLC)	
L509	1-459-106-00	COIL, DUST CORE	
L510	1-459-075-00	COIL, DYNAMIC CONVERSION CHOKE	
L511	1-459-059-00	COIL, DUST CORE	
L512	1-408-247-00	INDUCTOR 33MMH	
L513	1-459-104-00	COIL, DUST CORE	
L514	1-410-686-11	INDUCTOR 1MMH	
L515	1-410-510-11	INDUCTOR 12UH	
L801	1-410-470-11	INDUCTOR 10UH	
L802	1-410-089-21	INDUCTOR 15MMH	

<NEON LAMP>

REF.NO.	PART NO.	DESCRIPTION	REMARK
NL501	1-519-108-99	LAMP, NEON	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q300	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q301	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q302	8-729-119-78	TRANSISTOR 2SC2785-HFE	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q303	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q304	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q305	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q306	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q307	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q308	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q309	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q310	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q311	8-729-900-89	TRANSISTOR DTC144ES	
Q312	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q313	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q314	8-729-900-65	TRANSISTOR DTA144ES	
Q315	8-729-900-89	TRANSISTOR DTC144ES	
Q316	8-729-900-89	TRANSISTOR DTC144ES	
Q317	8-729-900-89	TRANSISTOR DTC144ES	
Q318	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q319	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q320	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q321	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q322	8-729-900-89	TRANSISTOR DTC144ES	
Q323	8-729-900-89	TRANSISTOR DTC144ES	
Q324	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q325	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q326	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q327	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q328	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q329	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q330	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q331	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q332	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q333	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q334	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q335	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q336	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q337	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q338	8-729-900-89	TRANSISTOR DTC144ES	
Q400	8-729-177-33	TRANSISTOR 2SD773-4	
Q401	8-729-900-36	TRANSISTOR DTC124ES	
Q402	8-729-900-36	TRANSISTOR DTC124ES	
Q403	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q404	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q405	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q406	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q407	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q408	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q409	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q410	8-729-900-89	TRANSISTOR DTC144ES	
Q411	8-729-900-89	TRANSISTOR DTC144ES	
Q412	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q413	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q414	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q415	8-729-900-36	TRANSISTOR DTC124ES	
Q416	8-729-900-36	TRANSISTOR DTC124ES	
Q501	8-729-800-35	TRANSISTOR 2SD1397	
Q502	8-729-119-80	TRANSISTOR 2SC2688-LK	
Q503	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q504	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q505	8-729-309-08	TRANSISTOR 2SC1890A	
Q506	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q507	8-729-313-42	TRANSISTOR 2SD1134	
Q508	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q509	8-729-195-82	TRANSISTOR 2SC2958	
Q510	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q511	8-729-169-02	TRANSISTOR 2SC2690A	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q512	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q513	8-729-900-63	TRANSISTOR DTA124ES	
Q514	8-729-900-36	TRANSISTOR DTC124ES	
Q515	8-729-900-36	TRANSISTOR DTC124ES	
Q516	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q517	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q518	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q519	8-729-900-36	TRANSISTOR DTC124ES	
Q520	8-729-900-63	TRANSISTOR DTA124ES	
Q521	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q522	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q523	8-729-900-36	TRANSISTOR DTC124ES	
Q524	8-729-900-63	TRANSISTOR DTA124ES	
Q525	8-729-900-36	TRANSISTOR DTC124ES	
Q526	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q528	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q529	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q530	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q531	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q532	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q533	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q534	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q550	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q551	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q801	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q802	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q803	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q805	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q806	8-729-900-36	TRANSISTOR DTC124ES	
Q807	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1001	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1002	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q1003	8-729-140-96	TRANSISTOR 2SD774-34	
Q1004	8-729-140-96	TRANSISTOR 2SD774-34	
Q1005	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q1006	8-729-119-78	TRANSISTOR 2SC2785-HFE	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R300	1-249-405-11	CARBON	100	5%	1/4W	
R301	1-249-405-11	CARBON	100	5%	1/4W	
R302	1-247-721-11	CARBON	4.7K	5%	1/4W	
R303	1-249-426-11	CARBON	5.6K	5%	1/4W	
R304	1-249-421-11	CARBON	2.2K	5%	1/4W	
R305	1-249-429-11	CARBON	10K	5%	1/4W	
R306	1-249-405-11	CARBON	100	5%	1/4W	
R307	1-247-887-00	CARBON	220K	5%	1/4W	
R308	1-249-429-11	CARBON	10K	5%	1/4W	
R309	1-249-405-11	CARBON	100	5%	1/4W	
R310	1-247-887-00	CARBON	220K	5%	1/4W	
R311	1-249-435-11	CARBON	33K	5%	1/4W	
R312	1-249-431-11	CARBON	15K	5%	1/4W	
R313	1-249-405-11	CARBON	100	5%	1/4W	
R314	1-249-405-11	CARBON	100	5%	1/4W	
R315	1-249-413-11	CARBON	470	5%	1/4W	
R316	1-249-413-11	CARBON	470	5%	1/4W	
R317	1-249-414-11	CARBON	560	5%	1/4W	
R318	1-249-422-11	CARBON	2.7K	5%	1/4W	
R319	1-249-416-11	CARBON	820	5%	1/4W	
R320	1-249-415-11	CARBON	680	5%	1/4W	
R321	1-249-411-11	CARBON	330	5%	1/4W	
R322	1-249-409-11	CARBON	220	5%	1/4W	

A

REF.NO.	PART NO.	DESCRIPTION				REMARK
R323	1-249-409-11	CARBON	220	5%	1/4W	
R324	1-249-417-11	CARBON	1K	5%	1/4W	
R325	1-249-405-11	CARBON	100	5%	1/4W	
R326	1-249-409-11	CARBON	220	5%	1/4W	
R327	1-249-417-11	CARBON	1K	5%	1/4W	
R328	1-249-434-11	CARBON	27K	5%	1/4W	
R329	1-249-433-11	CARBON	22K	5%	1/4W	
R330	1-249-433-11	CARBON	22K	5%	1/4W	
R331	1-249-433-11	CARBON	22K	5%	1/4W	
R332	1-249-405-11	CARBON	100	5%	1/4W	
R333	1-249-435-11	CARBON	33K	5%	1/4W	
R334	1-249-432-11	CARBON	18K	5%	1/4W	
R335	1-247-700-11	CARBON	100	5%	1/4W	
R336	1-249-417-11	CARBON	1K	5%	1/4W	
R337	1-249-410-11	CARBON	270	5%	1/4W	
R338	1-249-421-11	CARBON	2.2K	5%	1/4W	
R339	1-249-405-11	CARBON	100	5%	1/4W	
R340	1-249-434-11	CARBON	27K	5%	1/4W	
R341	1-249-434-11	CARBON	27K	5%	1/4W	
R342	1-249-418-11	CARBON	1.2K	5%	1/4W	
R343	1-249-440-11	CARBON	82K	5%	1/4W	
R344	1-249-428-11	CARBON	8.2K	5%	1/4W	
R345	1-249-416-11	CARBON	820	5%	1/4W	
R346	1-249-416-11	CARBON	820	5%	1/4W	
R347	1-249-421-11	CARBON	2.2K	5%	1/4W	
R348	1-249-421-11	CARBON	2.2K	5%	1/4W	
R349	1-249-417-11	CARBON	1K	5%	1/4W	
R350	1-249-425-11	CARBON	4.7K	5%	1/4W	
R351	1-249-421-11	CARBON	2.2K	5%	1/4W	
R352	1-247-891-00	CARBON	330K	5%	1/4W	
R353	1-249-428-11	CARBON	8.2K	5%	1/4W	
R354	1-249-424-11	CARBON	3.9K	5%	1/4W	
R355	1-249-434-11	CARBON	27K	5%	1/4W	
R356	1-249-437-11	CARBON	47K	5%	1/4W	
R357	1-249-437-11	CARBON	47K	5%	1/4W	
R358	1-249-433-11	CARBON	22K	5%	1/4W	
R359	1-249-417-11	CARBON	1K	5%	1/4W	
R360	1-249-413-11	CARBON	470	5%	1/4W	
R361	1-249-405-11	CARBON	100	5%	1/4W	
R362	1-249-410-11	CARBON	270	5%	1/4W	
R363	1-249-432-11	CARBON	18K	5%	1/4W	
R364	1-249-417-11	CARBON	1K	5%	1/4W	
R365	1-249-432-11	CARBON	18K	5%	1/4W	
R366	1-249-437-11	CARBON	47K	5%	1/4W	
R367	1-249-413-11	CARBON	470	5%	1/4W	
R368	1-249-405-11	CARBON	100	5%	1/4W	
R369	1-249-405-11	CARBON	100	5%	1/4W	
R370	1-249-417-11	CARBON	1K	5%	1/4W	
R371	1-249-461-11	CARBON	18K	5%	1/4W	
R372	1-249-465-11	CARBON	47K	5%	1/4W	
R373	1-249-436-11	CARBON	39K	5%	1/4W	
R374	1-249-432-11	CARBON	18K	5%	1/4W	
R375	1-249-405-11	CARBON	100	5%	1/4W	
R376	1-249-417-11	CARBON	1K	5%	1/4W	
R377	1-249-437-11	CARBON	47K	5%	1/4W	
R378	1-249-433-11	CARBON	22K	5%	1/4W	
R379	1-249-430-11	CARBON	12K	5%	1/4W	
R380	1-249-405-11	CARBON	100	5%	1/4W	
R381	1-249-431-11	CARBON	15K	5%	1/4W	
R382	1-249-408-11	CARBON	180	5%	1/4W	
R383	1-249-413-11	CARBON	470	5%	1/4W	
R384	1-249-413-11	CARBON	470	5%	1/4W	
R385	1-249-411-11	CARBON	330	5%	1/4W	
R386	1-249-415-11	CARBON	680	5%	1/4W	
R387	1-249-405-11	CARBON	100	5%	1/4W	
R388	1-249-423-11	CARBON	3.3K	5%	1/4W	
R389	1-249-417-11	CARBON	1K	5%	1/4W	
R390	1-249-433-11	CARBON	22K	5%	1/4W	
R391	1-249-433-11	CARBON	22K	5%	1/4W	
R392	1-249-433-11	CARBON	22K	5%	1/4W	
R393	1-249-403-11	CARBON	68	5%	1/4W	
R394	1-249-409-11	CARBON	220	5%	1/4W	
R395	1-249-417-11	CARBON	1K	5%	1/4W	
R396	1-249-433-11	CARBON	22K	5%	1/4W	
R397	1-249-405-11	CARBON	100	5%	1/4W	
R398	1-249-405-11	CARBON	100	5%	1/4W	
R399	1-247-718-11	CARBON	2.7K	5%	1/4W	
R400	1-249-413-11	CARBON	470	5%	1/4W	
R401	1-249-413-11	CARBON	470	5%	1/4W	
R402	1-249-416-11	CARBON	820	5%	1/4W	
R403	1-249-411-11	CARBON	330	5%	1/4W	
R404	1-249-405-11	CARBON	100	5%	1/4W	
R405	1-249-422-11	CARBON	2.7K	5%	1/4W	
R406	1-249-413-11	CARBON	470	5%	1/4W	
R407	1-249-413-11	CARBON	470	5%	1/4W	
R408	1-249-416-11	CARBON	820	5%	1/4W	
R409	1-249-411-11	CARBON	330	5%	1/4W	
R410	1-249-405-11	CARBON	100	5%	1/4W	
R411	1-249-422-11	CARBON	2.7K	5%	1/4W	
R412	1-249-419-11	CARBON	1.5K	5%	1/4W	
R413	1-249-417-11	CARBON	1K	5%	1/4W	
R414	1-249-429-11	CARBON	10K	5%	1/4W	
R415	1-249-417-11	CARBON	1K	5%	1/4W	
R416	1-249-429-11	CARBON	10K	5%	1/4W	
R417	1-249-421-11	CARBON	2.2K	5%	1/4W	
R418	1-249-439-11	CARBON	68K	5%	1/4W	
R419	1-249-433-11	CARBON	22K	5%	1/4W	
R420	1-249-426-11	CARBON	5.6K	5%	1/4W	
R421	1-249-437-11	CARBON	47K	5%	1/4W	
R422	1-249-437-11	CARBON	47K	5%	1/4W	
R423	1-249-405-11	CARBON	100	5%	1/4W	
R424	1-249-437-11	CARBON	47K	5%	1/4W	
R425	1-249-437-11	CARBON	47K	5%	1/4W	
R426	1-249-434-11	CARBON	27K	5%	1/4W	
R427	1-249-429-11	CARBON	10K	5%	1/4W	
R428	1-249-425-11	CARBON	4.7K	5%	1/4W	
R429	1-249-405-11	CARBON	100	5%	1/4W	
R430	1-247-711-11	CARBON	680	5%	1/4W	
R431	1-249-416-11	CARBON	820	5%	1/4W	
R432	1-249-414-11	CARBON	560	5%	1/4W	
R433	1-249-433-11	CARBON	22K	5%	1/4W	
R434	1-249-425-11	CARBON	4.7K	5%	1/4W	
R435	1-249-405-11	CARBON	100	5%	1/4W	
R436	1-249-423-11	CARBON	3.3K	5%	1/4W	
R437	1-249-411-11	CARBON	330	5%	1/4W	
R438	1-249-405-11	CARBON	100	5%	1/4W	
R439	1-249-417-11	CARBON	1K	5%	1/4W	
R440	1-249-425-11	CARBON	4.7K	5%	1/4W	
R441	1-249-417-11	CARBON	1K	5%	1/4W	
R442	1-247-700-11	CARBON	100	5%	1/4W	
R443	1-249-421-11	CARBON	2.2K	5%	1/4W	
R444	1-249-419-11	CARBON	1.5K	5%	1/4W	
R445	1-249-417-11	CARBON	1K	5%	1/4W	
R446	1-249-422-11	CARBON	2.7K	5%	1/4W	
R447	1-249-429-11	CARBON	10K	5%	1/4W	
R448	1-247-883-00	CARBON	150K	5%	1/4W	
R449	1-249-462-11	CARBON	22K	5%	1/4W	

- ※ : Selected to yield optimum performance.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R450	1-249-409-11	CARBON	220	5%	1/4W	
R451	1-247-704-11	CARBON	220	5%	1/4W	
R452	1-249-409-11	CARBON	220	5%	1/4W	
R453	1-247-704-11	CARBON	220	5%	1/4W	
R454	1-249-417-11	CARBON	1K	5%	1/4W	
R455	1-249-409-11	CARBON	220	5%	1/4W	
R456	1-249-409-11	CARBON	220	5%	1/4W	
R457	1-249-409-11	CARBON	220	5%	1/4W	
R458	1-249-433-11	CARBON	22K	5%	1/4W	
R459	1-249-425-11	CARBON	4.7K	5%	1/4W	
R460	1-249-425-11	CARBON	4.7K	5%	1/4W	
R461	1-249-433-11	CARBON	22K	5%	1/4W	
R462	1-249-386-11	CARBON	2.7	5%	1/4W	F
R463	1-249-428-11	CARBON	8.2K	5%	1/4W	
R464	1-259-881-11	CARBON	2.7M	5%	1/4W	
R465	1-249-465-11	CARBON	47K	5%	1/4W	
R466	1-249-421-11	CARBON	2.2K	5%	1/4W	
R467	1-249-431-11	CARBON	15K	5%	1/4W	
R468	1-249-431-11	CARBON	15K	5%	1/4W	
R469	1-247-897-11	CARBON	560K	5%	1/4W	
R470	1-249-437-11	CARBON	47K	5%	1/4W	
R471	1-249-429-11	CARBON	10K	5%	1/4W	
R472	1-249-417-11	CARBON	1K	5%	1/4W	
R473	1-249-437-11	CARBON	47K	5%	1/4W	
R474	1-249-429-11	CARBON	10K	5%	1/4W	
R475	1-249-417-11	CARBON	1K	5%	1/4W	
R476	1-249-401-11	CARBON	47	5%	1/4W	
R477	1-249-417-11	CARBON	1K	5%	1/4W	
R478	1-249-401-11	CARBON	47	5%	1/4W	
R479	1-249-417-11	CARBON	1K	5%	1/4W	
R480	1-249-401-11	CARBON	47	5%	1/4W	
R481	1-249-433-11	CARBON	22K	5%	1/4W	
R482	1-249-433-11	CARBON	22K	5%	1/4W	
R483	1-249-433-11	CARBON	22K	5%	1/4W	
R484	1-247-891-00	CARBON	330K	5%	1/4W	
R485	1-247-891-00	CARBON	330K	5%	1/4W	
R486	1-249-433-11	CARBON	22K	5%	1/4W	
R487	1-249-433-11	CARBON	22K	5%	1/4W	
R488	1-249-418-11	CARBON	1.2K	5%	1/4W	F
R489	1-249-421-11	CARBON	2.2K	5%	1/4W	
R490	1-247-895-00	CARBON	470K	5%	1/4W	
R491	1-249-420-11	CARBON	1.8K	5%	1/4W	
R492	1-249-417-11	CARBON	1K	5%	1/4W	
R493	1-249-441-11	CARBON	100K	5%	1/4W	
R494	1-249-413-11	CARBON	470	5%	1/4W	
R495	1-249-433-11	CARBON	22K	5%	1/4W	
R496	1-249-433-11	CARBON	22K	5%	1/4W	
R497	1-249-437-11	CARBON	47K	5%	1/4W	
R498	1-249-433-11	CARBON	22K	5%	1/4W	
R499	1-249-433-11	CARBON	22K	5%	1/4W	
※R500	1-215-451-00	RES, METAL FILM	18K	1%	1/6W	
※R500	1-215-452-00	RES, METAL FILM	20K	1%	1/6W	
※R500	1-215-453-00	RES, METAL FILM	22K	1%	1/6W	
※R500	1-215-454-00	RES, METAL FILM	24K	1%	1/6W	
※R500	1-215-455-00	RES, METAL FILM	27K	1%	1/6W	
※R500	1-215-456-00	RES, METAL FILM	30K	1%	1/6W	
※R500	1-215-457-00	RES, METAL FILM	33K	1%	1/6W	
※R500	1-215-458-00	RES, METAL FILM	36K	1%	1/6W	
※R500	1-215-459-00	RES, METAL FILM	39K	1%	1/6W	
※R500	1-215-460-00	RES, METAL FILM	43K	1%	1/6W	
※R500	1-215-461-00	RES, METAL FILM	47K	1%	1/6W	
※R500	1-215-462-00	RES, METAL FILM	51K	1%	1/6W	
※R500	1-215-463-00	RES, METAL FILM	56K	1%	1/6W	
※R500	1-215-464-00	RES, METAL FILM	62K	1%	1/6W	
※R500	1-215-465-00	RES, METAL FILM	68K	1%	1/6W	
※R500	1-215-466-00	RES, METAL FILM	75K	1%	1/6W	
※R500	1-215-467-00	RES, METAL FILM	82K	1%	1/6W	
R501	1-247-711-11	CARBON	680	5%	1/4W	F
R502	1-216-464-11	METAL OXIDE	18K	5%	2W	F
R503	1-249-440-11	CARBON	82K	5%	1/4W	
R504	1-249-426-11	CARBON	5.6K	5%	1/4W	
R505	1-249-440-11	CARBON	82K	5%	1/4W	
R506	1-249-431-11	CARBON	15K	5%	1/4W	
R507	1-215-458-00	METAL	36K	1%	1/6W	
R508	1-247-723-11	CARBON	6.8K	5%	1/4W	F
R509	1-249-423-11	CARBON	3.3K	5%	1/4W	F
R510	1-215-919-11	METAL OXIDE	2.2K	5%	3W	F
R511	1-215-447-00	METAL	12K	1%	1/6W	
R512	1-212-883-00	FUSIBLE	120	5%	1/4W	F
R513	1-249-383-11	CARBON	1.5	5%	1/4W	F
R514	1-216-367-11	METAL OXIDE	0.68	5%	2W	F
R515	1-216-434-11	METAL OXIDE	1.8K	5%	1W	F
R516	1-214-888-00	METAL	10K	1%	1/2W	
R517	1-214-763-00	METAL	27K	1%	1/4W	
R518	1-214-956-00	METAL	470K	1%	1/4W	
R519	1-214-917-00	METAL	150K	1%	1/2W	
R520	1-215-467-00	METAL	82K	1%	1/6W	
R521	1-215-445-00	METAL	10K	1%	1/6W	
R522	1-247-887-00	CARBON	220K	5%	1/4W	
R523	1-215-439-00	METAL	5.6K	1%	1/6W	
R524	1-249-469-11	CARBON	100K	5%	1/4W	
R525	1-215-445-00	METAL	10K	1%	1/6W	
R526	1-215-442-00	METAL	7.5K	1%	1/6W	
R527	1-249-417-11	CARBON	1K	5%	1/4W	
R528	1-215-877-11	METAL OXIDE	22K	5%	1W	F
R529	1-216-360-11	METAL OXIDE	8.2	5%	1W	F
R530	1-216-427-00	METAL OXIDE	120	5%	1W	F
R531	1-247-756-11	CARBON	2.2K	5%	1/2W	F
R532	1-249-436-11	CARBON	39K	5%	1/4W	
R533	1-249-422-11	CARBON	2.7K	5%	1/4W	
R534	1-247-719-11	CARBON	3.3K	5%	1/4W	
R535	1-215-441-00	METAL	6.8K	1%	1/6W	
R536	1-249-433-11	CARBON	22K	5%	1/4W	
R537	1-249-417-11	CARBON	1K	5%	1/4W	F
R538	1-249-428-11	CARBON	8.2K	5%	1/4W	
R539	1-247-883-00	CARBON	150K	5%	1/4W	
R540	1-249-466-11	CARBON	56K	5%	1/4W	
R541	1-247-883-00	CARBON	150K	5%	1/4W	
R542	1-249-438-11	CARBON	56K	5%	1/4W	
R543	1-247-903-00	CARBON	1M	5%	1/4W	
R544	1-215-453-00	METAL	22K	1%	1/6W	
R545	1-249-417-11	CARBON	1K	5%	1/4W	
R546	1-249-411-11	CARBON	330	5%	1/4W	
R547	1-249-414-11	CARBON	560	5%	1/4W	
R548	1-249-415-11	CARBON	680	5%	1/4W	
R549	1-215-473-00	METAL	150K	1%	1/6W	
R550	1-249-433-11	CARBON	22K	5%	1/4W	
R551	1-247-688-11	CARBON	10	5%	1/4W	F
R552	1-249-425-11	CARBON	4.7K	5%	1/4W	
R553	1-249-429-11	CARBON	10K	5%	1/4W	
R554	1-249-460-11	CARBON	15K	5%	1/4W	
R555	1-249-426-11	CARBON	5.6K	5%	1/4W	
R556	1-247-707-11	CARBON	390	5%	1/4W	
R557	1-215-463-00	METAL	56K	1%	1/6W	
R558	1-215-457-00	METAL	33K	1%	1/6W	
R559	1-215-453-00	METAL	22K	1%	1/6W	
R560	1-215-479-00	METAL	270K	1%	1/6W	
R561	1-249-435-11	CARBON	33K	5%	1/4W	

A

REF.NO.	PART NO.	DESCRIPTION				REMARK
R562	1-249-422-11	CARBON	2.7K	5%	1/4W	
R563	1-249-428-11	CARBON	8.2K	5%	1/4W	
R564	1-215-445-00	METAL	10K	1%	1/6W	
R565	1-249-413-11	CARBON	470	5%	1/4W	F
R566	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R567	1-216-350-11	METAL OXIDE	1.2	5%	1W	F
R568	1-249-401-11	CARBON	47	5%	1/4W	F
R569	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R570	1-247-697-11	CARBON	56	5%	1/4W	F
R571	1-215-867-00	METAL OXIDE	470	5%	1W	F
R572	1-216-355-11	METAL OXIDE	3.3	5%	1W	F
R573	1-247-746-11	CARBON	390	5%	1/2W	
R574	1-249-425-11	CARBON	4.7K	5%	1/4W	
R575	1-247-688-11	CARBON	10	5%	1/4W	F
R576	1-249-440-11	CARBON	82K	5%	1/4W	
R577	1-249-396-11	CARBON	18	5%	1/4W	
R578	1-249-433-11	CARBON	22K	5%	1/4W	
R579	1-249-433-11	CARBON	22K	5%	1/4W	
R580	1-249-433-11	CARBON	22K	5%	1/4W	
R581	1-249-429-11	CARBON	10K	5%	1/4W	
R582	1-249-429-11	CARBON	10K	5%	1/4W	
R583	1-249-438-11	CARBON	56K	5%	1/4W	
R584	1-247-881-00	CARBON	120K	5%	1/4W	
R585	1-249-433-11	CARBON	22K	5%	1/4W	
R586	1-215-449-00	METAL	15K	1%	1/6W	
R587	1-249-429-11	CARBON	10K	5%	1/4W	
R588	1-247-688-11	CARBON	10	5%	1/4W	F
R589	1-249-417-11	CARBON	1K	5%	1/4W	
R590	1-249-433-11	CARBON	22K	5%	1/4W	
R591	1-249-433-11	CARBON	22K	5%	1/4W	
R592	1-249-417-11	CARBON	1K	5%	1/4W	
R593	1-249-425-11	CARBON	4.7K	5%	1/4W	
R594	1-247-719-11	CARBON	3.3K	5%	1/4W	
R595	1-249-417-11	CARBON	1K	5%	1/4W	
R596	1-247-721-11	CARBON	4.7K	5%	1/4W	F
R597	1-215-437-00	METAL	4.7K	1%	1/6W	
R598	1-247-725-11	CARBON	10K	5%	1/4W	
R599	1-247-711-11	CARBON	680	5%	1/4W	F
R800	1-215-443-00	METAL	8.2K	1%	1/6W	
R801	1-249-440-11	CARBON	82K	5%	1/4W	
R802	1-215-429-00	METAL	2.2K	1%	1/6W	
R803	1-249-465-11	CARBON	47K	5%	1/4W	
R804	1-247-726-11	CARBON	33K	5%	1/4W	F
R805	1-249-407-11	CARBON	150	5%	1/4W	
R806	1-249-415-11	CARBON	680	5%	1/4W	
R807	1-249-437-11	CARBON	47K	5%	1/4W	
R808	1-249-433-11	CARBON	22K	5%	1/4W	
R809	1-215-471-00	METAL	120K	1%	1/6W	
R810	1-215-467-00	METAL	82K	1%	1/6W	
R811	1-249-429-11	CARBON	10K	5%	1/4W	
R812	1-249-427-11	CARBON	6.8K	5%	1/4W	
R813	1-249-405-11	CARBON	100	5%	1/4W	
R814	1-249-417-11	CARBON	1K	5%	1/4W	
R815	1-249-409-11	CARBON	220	5%	1/4W	
R816	1-249-429-11	CARBON	10K	5%	1/4W	
R817	1-247-881-00	CARBON	120K	5%	1/4W	
R818	1-247-881-00	CARBON	120K	5%	1/4W	
R819	1-247-903-00	CARBON	1M	5%	1/4W	
R820	1-249-426-11	CARBON	5.6K	5%	1/4W	
R821	1-247-881-00	CARBON	120K	5%	1/4W	
R822	1-249-417-11	CARBON	1K	5%	1/4W	
R823	1-247-696-11	CARBON	47	5%	1/4W	F
R824	1-249-439-11	CARBON	68K	5%	1/4W	
R825	1-249-437-11	CARBON	47K	5%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R826	1-249-417-11	CARBON	1K	5%	1/4W	
R827	1-249-417-11	CARBON	1K	5%	1/4W	
R828	1-249-417-11	CARBON	1K	5%	1/4W	
R829	1-249-421-11	CARBON	2.2K	5%	1/4W	
R830	1-249-435-11	CARBON	33K	5%	1/4W	
R831	1-249-438-11	CARBON	56K	5%	1/4W	
R832	1-249-417-11	CARBON	1K	5%	1/4W	
R833	1-249-425-11	CARBON	4.7K	5%	1/4W	
R834	1-249-425-11	CARBON	4.7K	5%	1/4W	
R835	1-247-889-00	CARBON	270K	5%	1/4W	
R836	1-247-897-11	CARBON	560K	5%	1/4W	
R837	1-215-469-00	METAL	100K	1%	1/6W	
R838	1-246-531-00	CARBON	270K	5%	1/4W	
R840	1-247-696-11	CARBON	47	5%	1/4W	
R842	1-249-409-11	CARBON	220	5%	1/4W	
R843	1-247-704-11	CARBON	220	5%	1/4W	
R844	1-249-417-11	CARBON	1K	5%	1/4W	
R845	1-247-725-11	CARBON	10K	5%	1/4W	
R846	1-215-439-00	METAL	5.6K	1%	1/6W	
R847	1-249-433-11	CARBON	22K	5%	1/4W	
R848	1-249-433-11	CARBON	22K	5%	1/4W	
R850	1-249-440-11	CARBON	82K	5%	1/4W	
R851	1-249-439-11	CARBON	68K	5%	1/4W	
R852	1-249-437-11	CARBON	47K	5%	1/4W	
R853	1-247-710-11	CARBON	560	5%	1/4W	
R855	1-249-414-11	CARBON	560	5%	1/4W	
R856	1-249-429-11	CARBON	10K	5%	1/4W	
R857	1-247-725-11	CARBON	10K	5%	1/4W	
R858	1-249-433-11	CARBON	22K	5%	1/4W	
R860	1-249-425-11	CARBON	4.7K	5%	1/4W	
R861	1-249-437-11	CARBON	47K	5%	1/4W	
R862	1-249-425-11	CARBON	4.7K	5%	1/4W	
R863	1-247-721-11	CARBON	4.7K	5%	1/4W	
R864	1-247-717-11	CARBON	2.2K	5%	1/4W	
R866	1-249-426-11	CARBON	5.6K	5%	1/4W	
R867	1-249-426-11	CARBON	5.6K	5%	1/4W	
R868	1-249-421-11	CARBON	2.2K	5%	1/4W	
R869	1-249-425-11	CARBON	4.7K	5%	1/4W	
R870	1-249-426-11	CARBON	5.6K	5%	1/4W	
R871	1-247-723-11	CARBON	6.8K	5%	1/4W	
R872	1-249-417-11	CARBON	1K	5%	1/4W	
R873	1-249-437-11	CARBON	47K	5%	1/4W	
R874	1-215-437-00	METAL	4.7K	1%	1/6W	
R875	1-215-453-00	METAL	22K	1%	1/6W	
R876	1-249-429-11	CARBON	10K	5%	1/4W	
R877	1-249-417-11	CARBON	1K	5%	1/4W	
R878	1-249-429-11	CARBON	10K	5%	1/4W	
R879	1-249-437-11	CARBON	47K	5%	1/4W	
R880	1-249-417-11	CARBON	1K	5%	1/4W	
R881	1-249-423-11	CARBON	3.3K	5%	1/4W	
R883	1-249-409-11	CARBON	220	5%	1/4W	
R884	1-249-417-11	CARBON	1K	5%	1/4W	
R885	1-249-469-11	CARBON	100K	5%	1/4W	
R886	1-247-725-11	CARBON	10K	5%	1/4W	
R887	1-249-409-11	CARBON	220	5%	1/4W	
R1001	1-247-717-11	CARBON	2.2K	5%	1/4W	
R1002	1-249-429-11	CARBON	10K	5%	1/4W	
R1003	1-249-405-11	CARBON	100	5%	1/4W	
R1004	1-247-725-11	CARBON	10K	5%	1/4W	
R1005	1-249-437-11	CARBON	47K	5%	1/4W	
R1006	1-249-439-11	CARBON	68K	5%	1/4W	
R1007	1-249-433-11	CARBON	22K	5%	1/4W	
R1009	1-249-429-11	CARBON	10K	5%	1/4W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

A **W** **J** **XA**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1010	1-249-415-11	CARBON	680	5%	1/4W	
R1011	1-249-455-11	CARBON	4.7	5%	1/4W	
R1012	1-216-355-11	METAL OXIDE	3.3	5%	1W	F
R1013	1-249-413-11	CARBON	470	5%	1/4W	
R1014	1-249-414-11	CARBON	560	5%	1/4W	
R1015	1-215-867-00	METAL OXIDE	470	5%	1W	F
R1016	1-247-698-11	CARBON	68	5%	1/4W	
R1017	1-249-421-11	CARBON	2.2K	5%	1/4W	
R1018	1-249-437-11	CARBON	47K	5%	1/4W	
R1019	1-212-857-00	FUSIBLE	10	5%	1/4W	F
R1020	1-249-429-11	CARBON	10K	5%	1/4W	
R1021	1-249-434-11	CARBON	27K	5%	1/4W	
R1022	1-249-428-11	CARBON	8.2K	5%	1/4W	
R1023	1-249-428-11	CARBON	8.2K	5%	1/4W	
R1024	1-247-903-00	CARBON	1M	5%	1/4W	
R1025	1-249-429-11	CARBON	10K	5%	1/4W	
R1026	1-249-429-11	CARBON	10K	5%	1/4W	
R1027	1-215-454-00	METAL	24K	1%	1/6W	
R1301	1-249-429-11	CARBON	10K	5%	1/4W	
R1302	1-247-725-11	CARBON	10K	5%	1/4W	
R1303	1-249-429-11	CARBON	10K	5%	1/4W	
R1304	1-249-405-11	CARBON	100	5%	1/4W	
R1306	1-247-700-11	CARBON	100	5%	1/4W	
R1307	1-249-421-11	CARBON	2.2K	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION
RV002	1-228-993-00	RES, ADJ, CARBON 4.7K
RV003	1-228-993-00	RES, ADJ, CARBON 4.7K
RV004	1-228-993-00	RES, ADJ, CARBON 4.7K
RV005	1-228-996-00	RES, ADJ, CARBON 47K
RV006	1-228-994-00	RES, ADJ, CARBON 10K
RV007	1-228-994-00	RES, ADJ, CARBON 10K
RV401	1-228-995-00	RES, ADJ, CARBON 22K
RV501	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K
RV502	1-223-102-00	RES, ADJ, WIREWOUND 120
RV503	1-228-996-00	RES, ADJ, METAL GLAZE 47K
RV504	1-228-990-00	RES, ADJ, CARBON 1K
RV505	1-228-995-00	RES, ADJ, CARBON 22K
RV506	1-228-989-00	RES, ADJ, CARBON 470
RV507	1-224-250-99	RES, ADJ, METAL GLAZE 2.2K
RV508	1-228-994-00	RES, ADJ, CARBON 10K
RV509	1-228-998-00	RES, ADJ, CARBON 220K
RV510	1-228-996-00	RES, ADJ, CARBON 47K
RV511	1-228-989-00	RES, ADJ, CARBON 470
RV512	1-228-995-00	RES, ADJ, CARBON 22K
RV513	1-228-993-00	RES, ADJ, METAL GLAZE 4.7K
RV514	1-228-996-00	RES, ADJ, CARBON 47K
RV550	1-228-993-00	RES, ADJ, CARBON 4.7K

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION
T501 ⚠	1-439-395-12	TRANSFORMER ASSY, FLYBACK
T502	1-437-131-00	TRANSFORMER, DRIVE

<THERMISTOR>

REF.NO.	PART NO.	DESCRIPTION
TH501	1-806-110-00	THERMISTOR

****

*1-629-149-12 W BOARD
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1400	1-136-169-00	FILM	0.22MF	5%	50V	
C1401	1-136-153-00	FILM	0.01MF	5%	50V	
C1402	1-126-101-11	ELECT	100MF	20%	16V	
C1403	1-102-074-00	CERAMIC	0.001MF	10%	50V	
C1404	1-126-101-11	ELECT	100MF	20%	16V	
C1405	1-123-875-11	ELECT	10MF	20%	50V	
C1406	1-124-902-00	ELECT	0.47MF	20%	50V	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION
D1400	8-719-911-19	DIODE 1SS119
D1401	8-719-911-19	DIODE 1SS119

<IC>

REF.NO.	PART NO.	DESCRIPTION
IC1400	8-759-135-80	IC UPC358C

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q1400	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1401	8-729-119-76	TRANSISTOR 2SA1175-HFE
Q1402	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1403	8-729-119-78	TRANSISTOR 2SC2785-HFE

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION			
R1400	1-249-437-11	CARBON	47K	5%	1/4W
R1401	1-249-415-11	CARBON	680	5%	1/4W
R1402	1-247-895-00	CARBON	470K	5%	1/4W
R1403	1-247-903-00	CARBON	1M	5%	1/4W
R1404	1-249-438-11	CARBON	56K	5%	1/4W
R1405	1-249-433-11	CARBON	22K	5%	1/4W
R1406	1-249-411-11	CARBON	330	5%	1/4W
R1407	1-249-433-11	CARBON	22K	5%	1/4W
R1408	1-249-411-11	CARBON	330	5%	1/4W
R1409	1-249-429-11	CARBON	10K	5%	1/4W
R1410	1-249-409-11	CARBON	220	5%	1/4W
R1411	1-249-426-11	CARBON	5.6K	5%	1/4W
R1412	1-249-411-11	CARBON	330	5%	1/4W
R1413	1-247-883-00	CARBON	150K	5%	1/4W
R1414	1-249-429-11	CARBON	10K	5%	1/4W
R1416	1-249-429-11	CARBON	10K	5%	1/4W
R1417	1-249-433-11	CARBON	22K	5%	1/4W
R1418	1-249-439-11	CARBON	68K	5%	1/4W
R1419	1-249-440-11	CARBON	82K	5%	1/4W
R1420	1-249-441-11	CARBON	100K	5%	1/4W
R1421	1-247-881-00	CARBON	120K	5%	1/4W

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
W1	*1-565-482-11	CONNECTOR, BOARD TO BOARD 6P
W2	*1-564-508-11	PLUG, CONNECTOR 5P

****

*1-629-153-11 J BOARD
****

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION
J1	*1-568-106-11	PIN, CONNECTOR 7P

****

*1-629-151-11 XA BOARD
****

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

XA

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<CAPACITOR>			
C1300	1-101-005-00	CERAMIC	0.022MF		50V
C1301	1-101-888-00	CERAMIC	68PF	5%	50V
C1302	1-101-884-00	CERAMIC	56PF	5%	50V
C1303	1-102-942-00	CERAMIC	5PF	1PF	50V
C1304	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C1305	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C1306	1-102-951-00	CERAMIC	15PF	5%	50V
C1307	1-102-951-00	CERAMIC	15PF	5%	50V
C1308	1-124-478-11	ELECT	100MF	20%	25V
C1309	1-102-125-00	CERAMIC	0.0047MF	10%	50V
		<TRIMMER>			
CV3	1-141-337-11	CAP, VAR, TRIMMER			
CV4	1-141-337-11	CAP, VAR, TRIMMER			
		<COIL>			
L1300	1-408-429-00	INDUCTOR	470UH		
L1301	1-408-429-00	INDUCTOR	470UH		
L1302	1-408-429-00	INDUCTOR	470UH		
L1303	1-408-429-00	INDUCTOR	470UH		
		<TRANSISTOR>			
Q1300	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1301	8-729-900-89	TRANSISTOR DTC144ES			
Q1302	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1303	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1304	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q1305	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		<RESISTOR>			
R1301	1-249-413-11	CARBON	470	5%	1/4W
R1302	1-249-415-11	CARBON	680	5%	1/4W
R1303	1-249-415-11	CARBON	680	5%	1/4W
R1304	1-249-427-11	CARBON	6.8K	5%	1/4W
R1305	1-249-413-11	CARBON	470	5%	1/4W
R1306	1-249-413-11	CARBON	470	5%	1/4W
R1308	1-249-417-11	CARBON	1K	5%	1/4W
R1310	1-249-441-11	CARBON	100K	5%	1/4W
R1311	1-249-441-11	CARBON	100K	5%	1/4W
R1312	1-249-441-11	CARBON	100K	5%	1/4W
R1313	1-249-441-11	CARBON	100K	5%	1/4W
R1320	1-249-429-11	CARBON	10K	5%	1/4W
R1321	1-249-429-11	CARBON	10K	5%	1/4W
R1322	1-249-429-11	CARBON	10K	5%	1/4W
R1323	1-249-429-11	CARBON	10K	5%	1/4W
		<CRYSTAL>			
X358	1-567-505-11	OSCILLATOR, CRYSTAL			
X443	1-567-504-11	OSCILLATOR, CRYSTAL			
		<CONNECTOR>			
XA1	*1-565-483-11	CONNECTOR, BOARD TO BOARD 7P			

MISCELLANEOUS
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	⚠.1-237-614-12	RESISTOR ASSY, HIGH-VOLTAGE	
	⚠.1-426-145-13	COIL, DEGAUSSING	
	⚠.1-451-329-11	DEFLECTION YOKE (Y14FZA)	
	1-452-032-00	MAGNET, DISK; 10MM ϕ	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
	1-452-277-00	MAGNET, BMC	
	1-466-076-21	CONTROL UNIT	
	1-543-604-11	CORE, RING	
	1-544-063-11	SPEAKER	
S901	⚠.1-554-967-12	SWITCH, PUSH (AC POWER)(1 KEY)	
	⚠.1-574-389-12	CORD, POWER (WITH CONNECTOR)	
V901	⚠.8-734-621-05	PICTURE TUBE (M34KBE21X)	

****

ACCESSORIES AND PACKING MATERIALS
****

PART NO.	DESCRIPTION	REMARK
3-750-351-12	MANUAL, INSTRUCTION	
*4-312-246-00	BAG, PROTECTION	
*4-391-866-01	CUSHION (UPPER) (ASSY)	
*4-391-867-01	CUSHION (LOWER) (ASSY)	
4-393-310-01	INDIVIDUAL CARTON	

English
89GG0514-1
Printed in Japan
© 1989. 7

9-964-312-01

Sony Corporation
TV Group

PVM-1443MD

SONY
SERVICE MANUAL

AEP Model
Serial No. 2,000,301 and later
Chassis No. SCC-C74A-A

SUPPLEMENT-1

File this Supplement with the Service Manual.

INTRODUCTION
A and W boards modification
☛ : Indicate modification portion

MICROFILM

TABLE OF CONTENTS

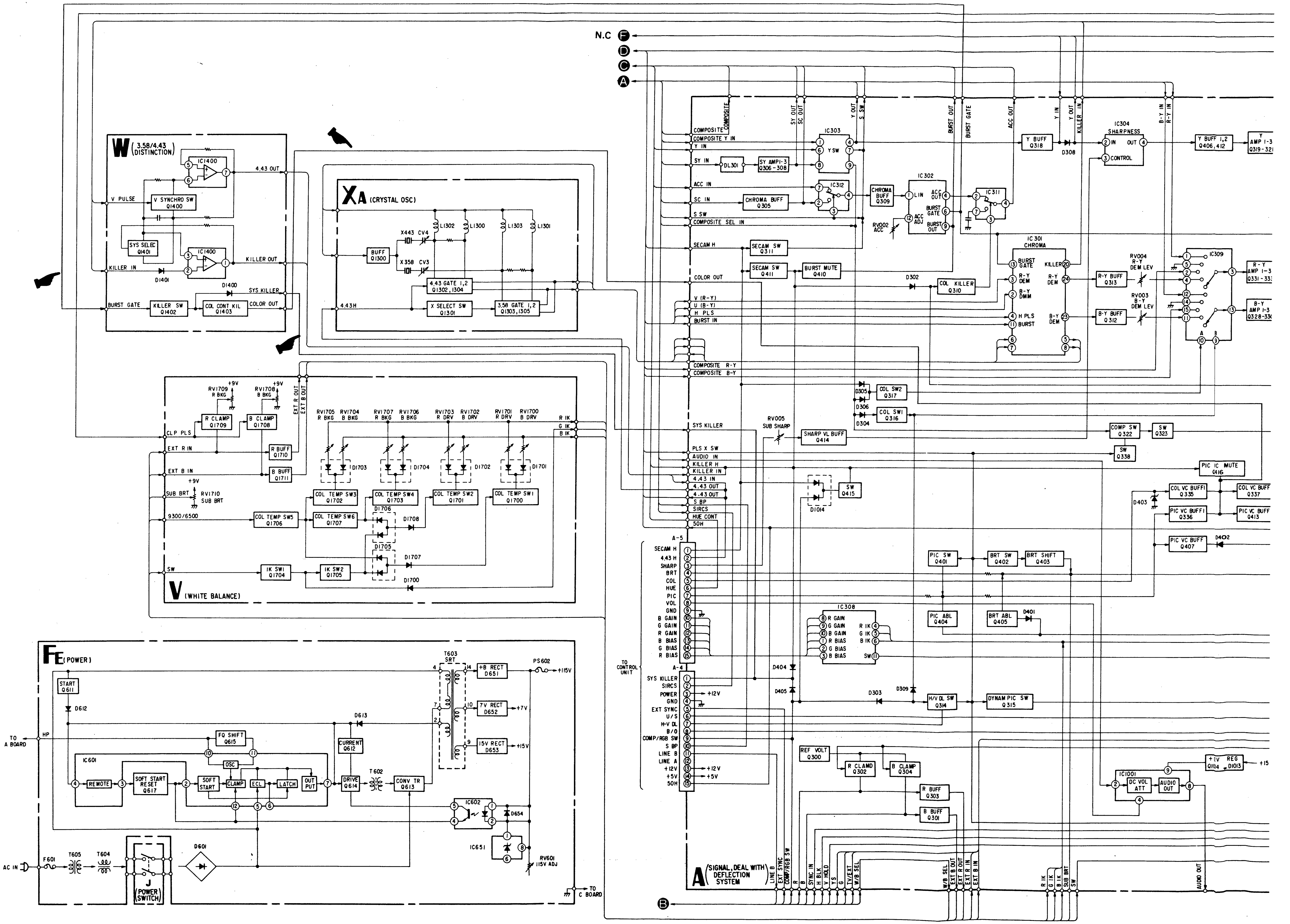
6. DIAGRAMS

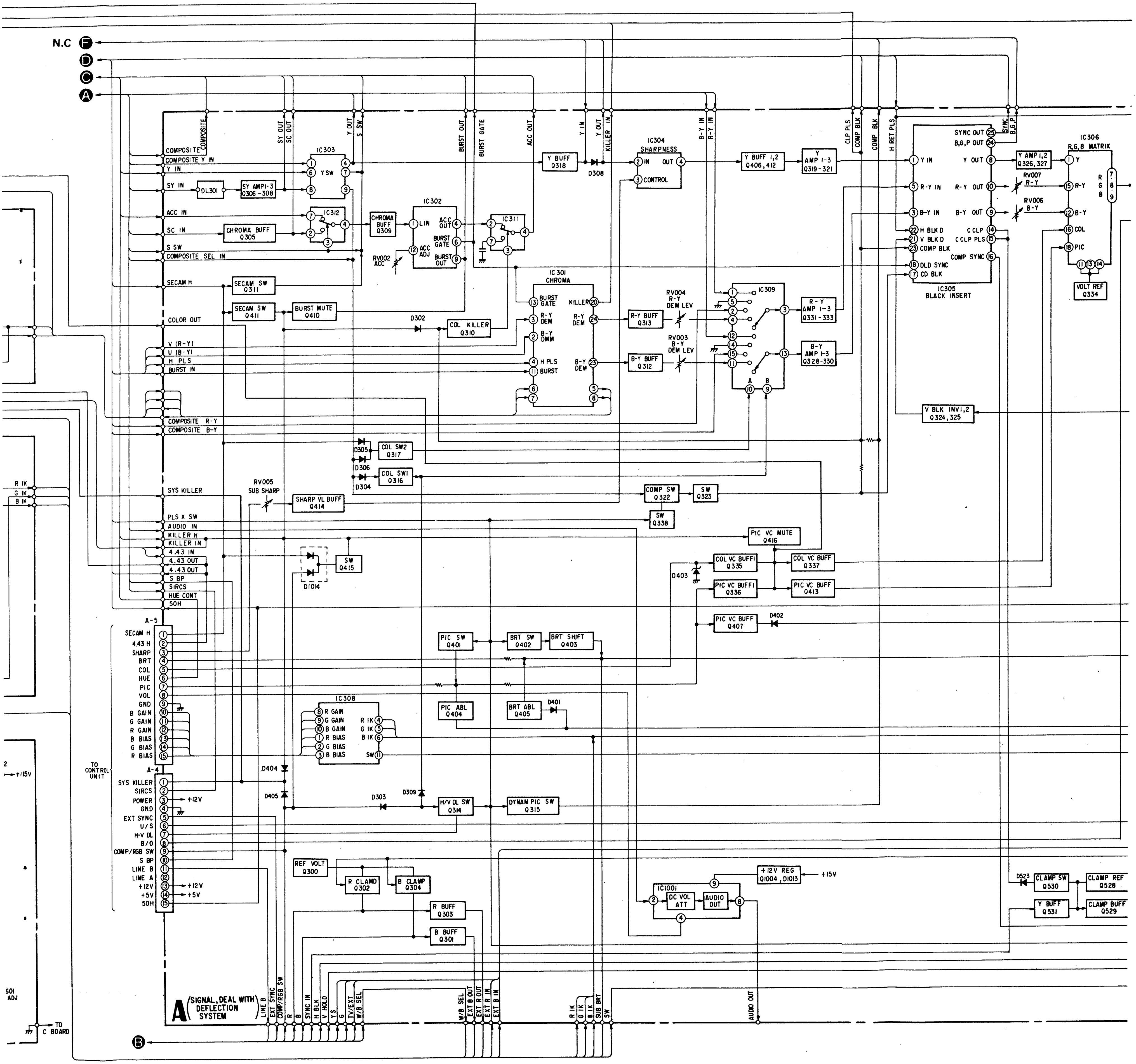
6-2. Block Diagrams············3
6-5. Schematic Diagram············6
6-3. Printed Wiring Boards············9

7. EXPLODED VIEWS

7-1. Chassis············11

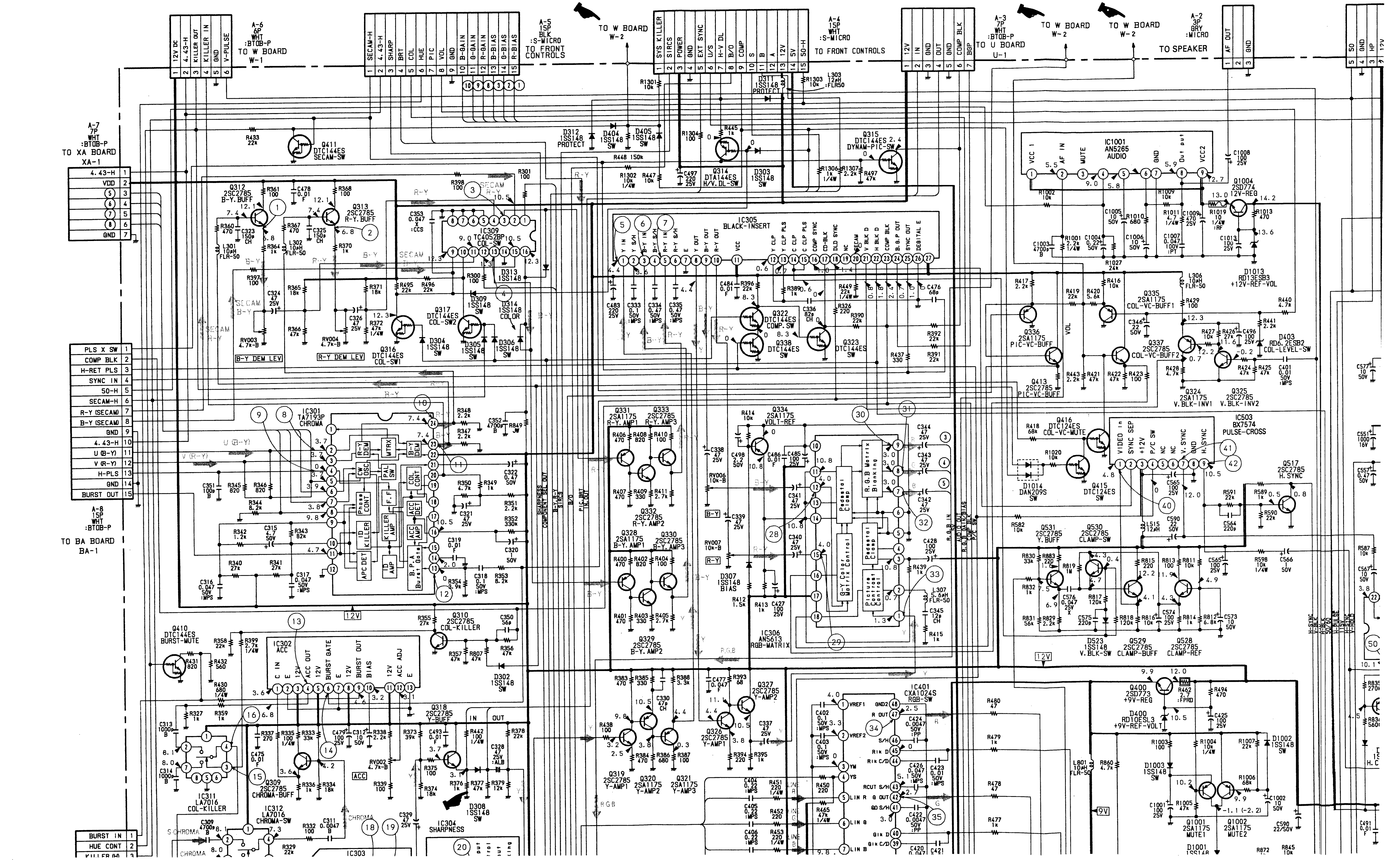
8. ELECTRICAL PARTS LIST············12

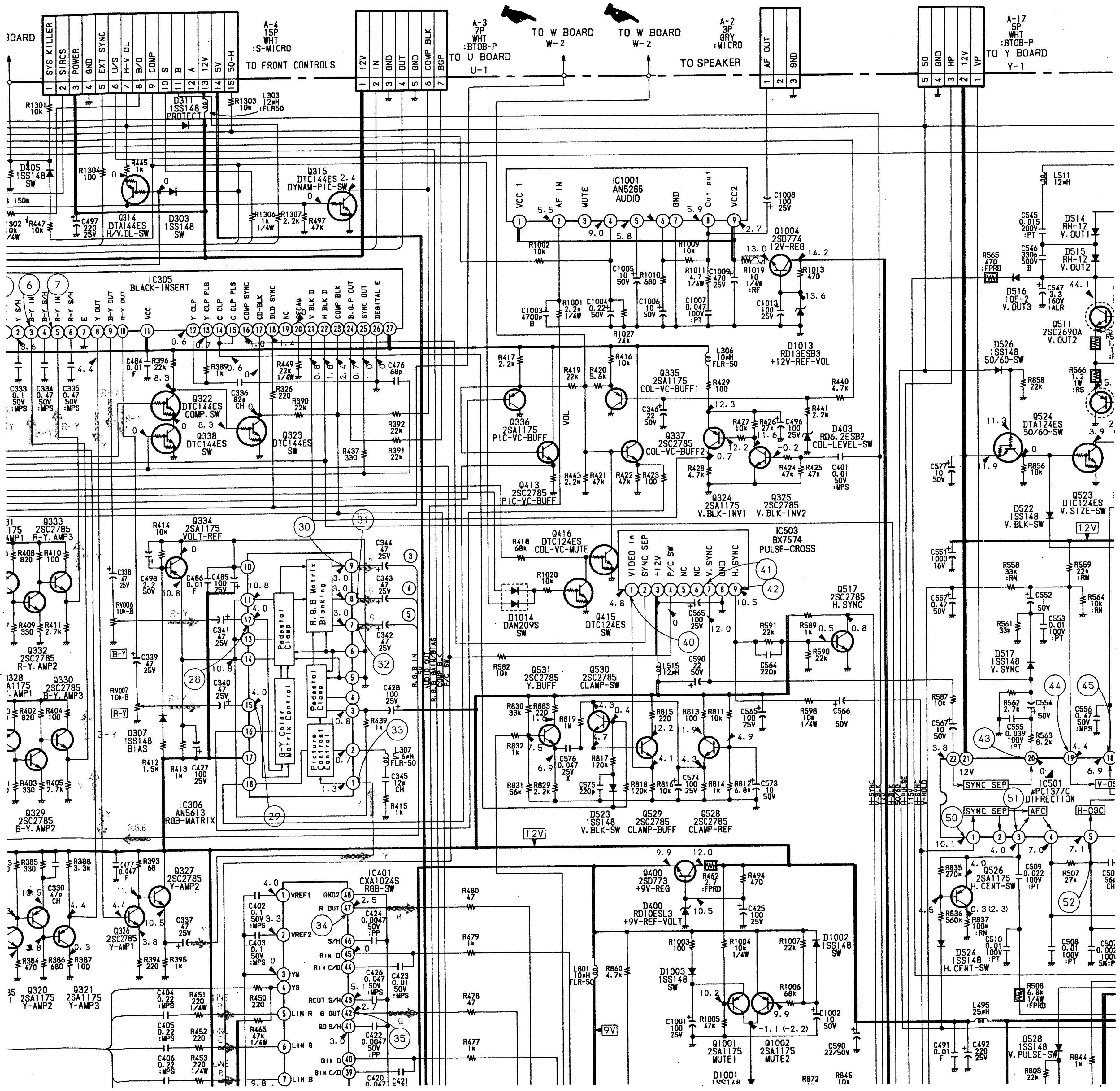

N.C F
D
C
A
B
W (3.58/4.43 DISTINCTION)
IC1400
4.43 OUT
V PULSE
V SYNCHRO SW Q1400
SYS SELEC Q1401
KILLER IN
D1401
KILLER OUT
D1400
SYS KILLER
BURST GATE
KILLER SW Q1402
COL CONT KIL Q1403
COLOR OUT
XA (CRYSTAL OSC)
X443 CV4
X358 CV3
L1302 L1300 L1303 L1301
BUFF Q1300
4.43 GATE 1,2 Q1302,1304
X SELECT SW Q1301
3.58 GATE 1,2 Q1303,1305
4.43H
V (WHITE BALANCE)
RV1709 R BKG
RV1708 B BKG
+9V
EXT R OUT
EXT B OUT
R CLAMP Q1709
B CLAMP Q1708
CLP PLS
EXT R IN
EXT B IN
R BUFF Q1710
B BUFF Q1711
SUB BRT
RV1710 SUB BRT
9300/6500
SW
RV1705 R BKG RV1704 B BKG
RV1707 R BKG RV1706 B BKG
RV1703 R DRV RV1702 B DRV
RV1701 R DRV RV1700 B DRV
D1703 D1704 D1702 D1701
COL TEMP SW3 Q1702
COL TEMP SW4 Q1703
COL TEMP SW2 Q1701
COL TEMP SW1 Q1700
COL TEMP SW5 Q1706
COL TEMP SW6 Q1707
D1706 D1708 D1705 D1707 D1700
IK SW1 Q1704
IK SW2 Q1705
R IK
G IK
B IK
FE (POWER)
START Q611
D612
TO A BOARD
HP
FQ SHIFT Q615
IC601
REMOTE
SOFT START RESET Q617
SOFT START
OSC
CLAMP
ECL
LATCH
OUT PUT
CURRENT Q612
DRIVE Q614
D613
T602
CONV TR Q613
T603 SRT
+B RECT D651
7V RECT D652
15V RECT D653
PS602
+115V
+7V
+15V
IC602
D654
IC651
RV601 115V ADJ
AC IN
F601
T605
T604
D601
J (POWER SWITCH)
TO C BOARD
A (SIGNAL, DEAL WITH DEFLECTION SYSTEM)
COMPOSITE
COMPOSITE Y IN
Y IN
SY IN
DL301
SY AMP1-3 Q306-308
ACC IN
SC IN
CHROMA BUFF Q305
S SW
COMPOSITE SEL IN
SECAM H
SECAM SW Q311
SECAM SW Q411
BURST MUTE Q410
COLOR OUT
V (R-Y)
U (B-Y)
H PLS
BURST IN
COMPOSITE R-Y
COMPOSITE B-Y
SY OUT
SC OUT
Y OUT
S SW
IC303
Y SW
IC312
CHROMA BUFF Q309
IC302
LIN
ACC OUT
BURST GATE
ACC ADJ
BURST OUT
RV002 ACC
IC311
D302
COL KILLER Q310
BURST OUT
BURST GATE
ACC OUT
Y IN
Y OUT
KILLER IN
Y BUFF Q318
D308
IC304 SHARPNESS
IN OUT
CONTROL
Y BUFF 1,2 Q406,412
Y AMP 1-3 Q319-321
IC301 CHROMA
BURST GATE
R-Y DEM
B-Y DMM
H PLS
BURST
KILLER
R-Y DEM
B-Y DEM
R-Y BUFF Q313
B-Y BUFF Q312
RV004 R-Y DEM LEV
RV003 B-Y DEM LEV
IC309
B-Y IN
R-Y IN
R-Y AMP 1-3 Q331-333
B-Y AMP 1-3 Q328-330
D305
D306
D304
COL SW2 Q317
COL SW1 Q316
SYS KILLER
RV005 SUB SHARP
SHARP VL BUFF Q414
COMP SW Q322
SW Q323
SW Q338
PLS X SW
AUDIO IN
KILLER H
KILLER IN
4.43 IN
4.43 OUT
4.43 OUT
S BP
SIRCS
HUE CONT
50H
D1014
SW Q415
PIC IC MUTE Q416
COL VC BUFF1 Q335
COL VC BUFF Q337
D403
PIC VC BUFF1 Q336
PIC VC BUFF Q413
PIC VC BUFF Q407
D402
A-5
SECAM H
4.43 H
SHARP
BRT
COL
HUE
PIC
VOL
GND
B GAIN
G GAIN
R GAIN
B BIAS
G BIAS
R BIAS
TO CONTROL UNIT
A-4
SYS KILLER
SIRCS
POWER
GND
EXT SYNC
U/S
H-V DL
B/O
COMP/RGB SW
S BP
LINE B
LINE A
+12V
+5V
50H
+12V
+12V
+5V
IC308
R GAIN
G GAIN
B GAIN
R BIAS
G BIAS
B BIAS
R IK
G IK
B IK
SW
PIC SW Q401
BRT SW Q402
BRT SHIFT Q403
PIC ABL Q404
BRT ABL Q405
D401
D404
D405
D303
D309
H/V DL SW Q314
DYNAM PIC SW Q315
REF VOLT Q300
R CLAMP Q302
B CLAMP Q304
R BUFF Q303
B BUFF Q301
IC1001
DC VOL ATT
AUDIO OUT
+1V REG Q1104 D1013
+15
LINE B
EXT SYNC
COMP/RGB SW
R
B
SYNC IN
H BLK
V HOLD
YS
G
TV/EXT
W/B SEL
W/B SEL
EXT B OUT
EXT R OUT
EXT R IN
EXT B IN
R IK
G IK
B IK
SUB BRT
SW
AUDIO OUT

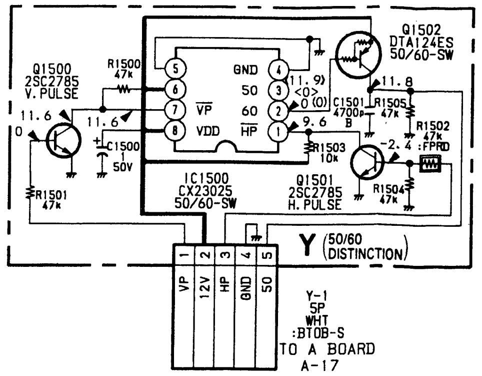


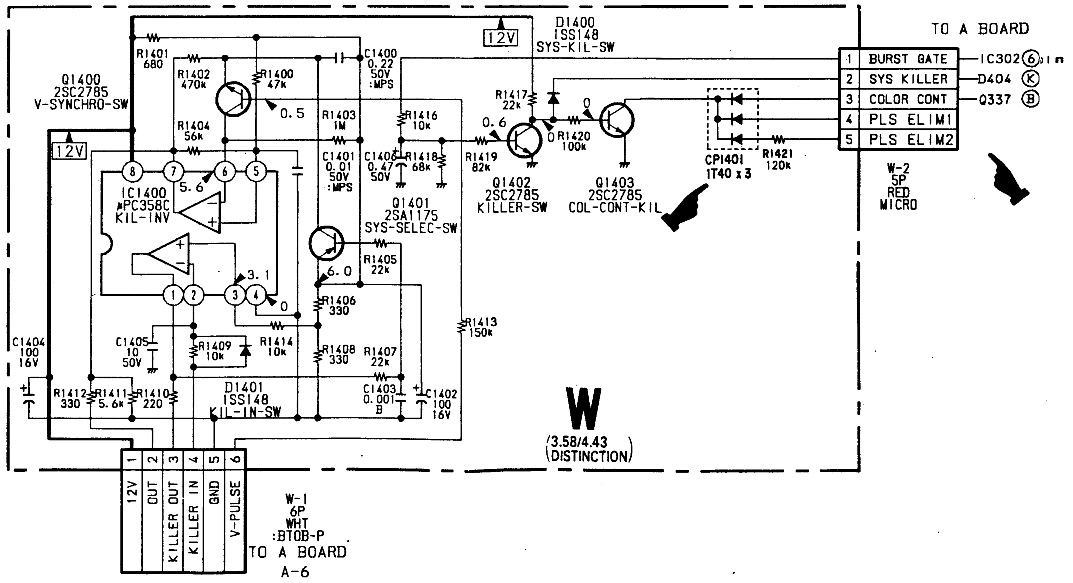
N.C F
D
C
A
COMPOSITE
COMPOSITE Y IN
Y IN
SY IN
DL301
SY AMP1-3 Q306-308
IC303
Y SW
SY OUT
SC OUT
Y OUT
S. SW
ACC IN
SC IN
CHROMA BUFF Q305
IC312
CHROMA BUFF Q309
IC302
LIN
ACC OUT
BURST GATE
BURST OUT
ACC ADJ
RV002 ACC
IC311
S SW
COMPOSITE SEL IN
SECAM H
SECAM SW Q311
SECAM SW Q411
BURST MUTE Q410
COLOR OUT
D302
COL KILLER Q310
V (R-Y)
U (B-Y)
H PLS
BURST IN
BURST OUT
BURST GATE
ACC OUT
Y BUFF Q318
D308
Y IN
Y OUT
KILLER IN
IC304 SHARPNESS
IN
OUT
CONTROL
IC301 CHROMA
BURST GATE
KILLER
R-Y DEM
B-Y DMM
H PLS
BURST
R-Y BUFF Q313
B-Y BUFF Q312
RV004 R-Y DEM LEV
RV003 B-Y DEM LEV
B-Y IN
R-Y IN
IC309
R-Y AMP 1-3 Q331-333
B-Y AMP 1-3 Q328-330
Y BUFF 1,2 Q406,412
Y AMP 1-3 Q319-321
CLP PLS
COMP BLK
H RET PLS
SYNC OUT
B,G,P OUT
SYNC B,G,P
Y IN
Y OUT
R-Y IN
R-Y OUT
B-Y IN
B-Y OUT
H BLK D
V BLK D
COMP BLK
CCLP
CCLP PLS
COMP SYNC
DLD SYNC
CD BLK
IC305 BLACK INSERT
Y AMP 1,2 Q326,327
RV007 R-Y
RV006 B-Y
IC306 R,G,B MATRIX
Y
R-Y
B-Y
COL
PIC
R
G
B
VOLT REF Q334
V BLK INV1,2 Q324,325
COMPOSITE R-Y
COMPOSITE B-Y
D305
COL SW2 Q317
D306
COL SW1 Q316
D304
R IK
G IK
B IK
SYS KILLER
RV005 SUB SHARP
SHARP VL BUFF Q414
COMP SW Q322
SW Q323
SW Q338
PLS X SW
AUDIO IN
KILLER H
KILLER IN
4.43 IN
4.43 OUT
4.43 OUT
S BP
SIRCS
HUE CONT
50H
SW Q415
D1014
PIC VC MUTE Q416
D403
COL VC BUFF1 Q335
COL VC BUFF Q337
PIC VC BUFF1 Q336
PIC VC BUFF Q413
PIC VC BUFF Q407
D402
A-5
SECAM H
4.43 H
SHARP
BRT
COL
HUE
PIC
VOL
GND
B GAIN
G GAIN
R GAIN
B BIAS
G BIAS
R BIAS
TO CONTROL UNIT
PIC SW Q401
BRT SW Q402
BRT SHIFT Q403
IC308
R GAIN
G GAIN
B GAIN
R BIAS
G BIAS
B BIAS
R IK
G IK
B IK
SW
PIC ABL Q404
BRT ABL Q405
D401
A-4
SYS KILLER
SIRCS
POWER
GND
EXT SYNC
U/S
H-V DL
B/O
COMP/RGB SW
S BP
LINE B
LINE A
+12V
+5V
50H
+12V
+12V
+5V
D404
D405
D303
D309
H/V DL SW Q314
DYNAM PIC SW Q315
REF VOLT Q300
R CLAMP Q302
B CLAMP Q304
R BUFF Q303
B BUFF Q301
IC1001
DC VOL ATT
AUDIO OUT
+12V REG Q1004, D1013
+15V
D523
CLAMP SW Q530
CLAMP REF Q528
Y BUFF Q531
CLAMP BUFF Q529
2
+115V
501 ADJ
TO C BOARD
A (SIGNAL, DEAL WITH DEFLECTION SYSTEM)
LINE B
EXT SYNC
COMP/RGB SW
R
B
SYNC IN
H BLK
V HOLD
Y.S
G
TV/EXT
W/B SEL
W/B SEL
EXT B OUT
EXT R OUT
EXT R IN
EXT B IN
R IK
G IK
B IK
SUB BRT
SW
AUDIO OUT
B

6-5. SCHEMATIC DIAGRAM Page 37-41


A-6 6P WHT :BTOB-P TO W BOARD W-1
12V DC
4.43-H
KILLER OUT
KILLER IN
GND
V-PULSE
A-5 15P BLK :S-MICRO TO FRONT CONTROLS
SECAM-H
4.43-H
SHARP
BRT
COL
HUE
PIC
VOL
GND
B-GAIN
G-GAIN
R-GAIN
B-BIAS
G-BIAS
R-BIAS
TO W BOARD W-2
SYS KILLER
SIRCS
POWER
GND
EXT SYNC
U/S
H-V DL
B/O
COMP
S
B
A
12V
5V
50-H
A-4 15P WHT :S-MICRO TO FRONT CONTROLS
A-3 7P WHT :BTOB-P TO U BOARD U-1
12V
IN
GND
OUT
GND
COMP BLK
BGP
TO W BOARD W-2
TO W BOARD W-2
A-2 3P GRY :MICRO TO SPEAKER
AF OUT
GND
A-7 7P WHT :BTOB-P TO XA BOARD XA-1
4.43-H
VDD
GND
PLS X SW
COMP BLK
H-RET PLS
SYNC IN
50-H
SECAM-H
R-Y (SECAM)
B-Y (SECAM)
GND
4.43-H
U (B-Y)
V (R-Y)
H-PLS
GND
BURST OUT
A-8 15P WHT :BTOB-P TO BA BOARD BA-1
BURST IN
HUE CONT
Q411 DTC144ES SECAM-SW
Q312 2SC2785 B-Y.BUFF
Q313 2SC2785 R-Y.BUFF
IC309 TC4052BP COL-SW
Q317 DTC144ES COL-SW2
Q316 DTC144ES COL-SW1
B-Y DEM LEV
R-Y DEM LEV
D312 1SS148 PROTECT
D404 1SS148 SW
D405 1SS148 SW
Q314 DTA144ES H/V.DL-SW
D303 1SS148 SW
Q315 DTC144ES DYNAM-PIC-SW
IC305 BLACK-INSERT
Q322 DTC144ES COMP.SW
Q338 DTC144ES SW
Q323 DTC144ES SW
IC1001 AN5265 AUDIO
Q1004 2SD774 12V-REG
D1013 RD13ESB3 +12V-REF-VOL
Q336 2SA1175 PIC-VC-BUFF
Q335 2SA1175 COL-VC-BUFF1
Q337 2SC2785 COL-VC-BUFF2
Q413 2SC2785 PIC-VC-BUFF
Q324 2SA1175 V.BLK-INV1
Q325 2SC2785 V.BLK-INV2
D403 RD6.2ESB2 COL-LEVEL-SW
IC301 TA7193P CHROMA
Q331 2SA1175 R-Y.AMP1
Q333 2SC2785 R-Y.AMP3
Q332 2SC2785 R-Y.AMP2
Q328 2SA1175 B-Y.AMP1
Q330 2SC2785 B-Y.AMP3
Q329 2SC2785 B-Y.AMP2
Q334 2SA1175 VOLT-REF
IC306 AN5613 RGB-MATRIX
D307 1SS148 BIAS
Q416 DTC124ES COL-VC-MUTE
Q415 DTC124ES SW
D1014 DAN209S SW
IC503 BX7574 PULSE-CROSS
Q517 2SC2785 H.SYNC
Q531 2SC2785 Y.BUFF
Q530 2SC2785 CLAMP-SW
D523 1SS148 V.BLK-SW
Q529 2SC2785 CLAMP-BUFF
Q528 2SC2785 CLAMP-REF
Q310 2SC2785 COL-KILLER
D302 1SS148 SW
Q410 DTC144ES BURST-MUTE
IC302 ACC
IC311 LA7016 COL-KILLER
Q309 2SC2785 CHROMA-BUFF
IC312 LA7016 CHROMA-SW
Q318 2SC2785 Y-BUFF
D308 1SS148 SW
IC304 SHARPNESS
IC303
Q319 2SC2785 Y-AMP1
Q320 2SA1175 Y-AMP2
Q321 2SA1175 Y-AMP3
Q327 2SC2785 Y-AMP2
Q326 2SC2785 Y-AMP1
IC401 CXA1024S RGB-SW
Q400 2SD773 +9V-REG
D400 RD10ESL3 +9V-REF-VOLT
D1002 1SS148 SW
D1003 1SS148 SW
Q1001 2SA1175 MUTE1
Q1002 2SA1175 MUTE2
D1001 1SS148
12V
9V

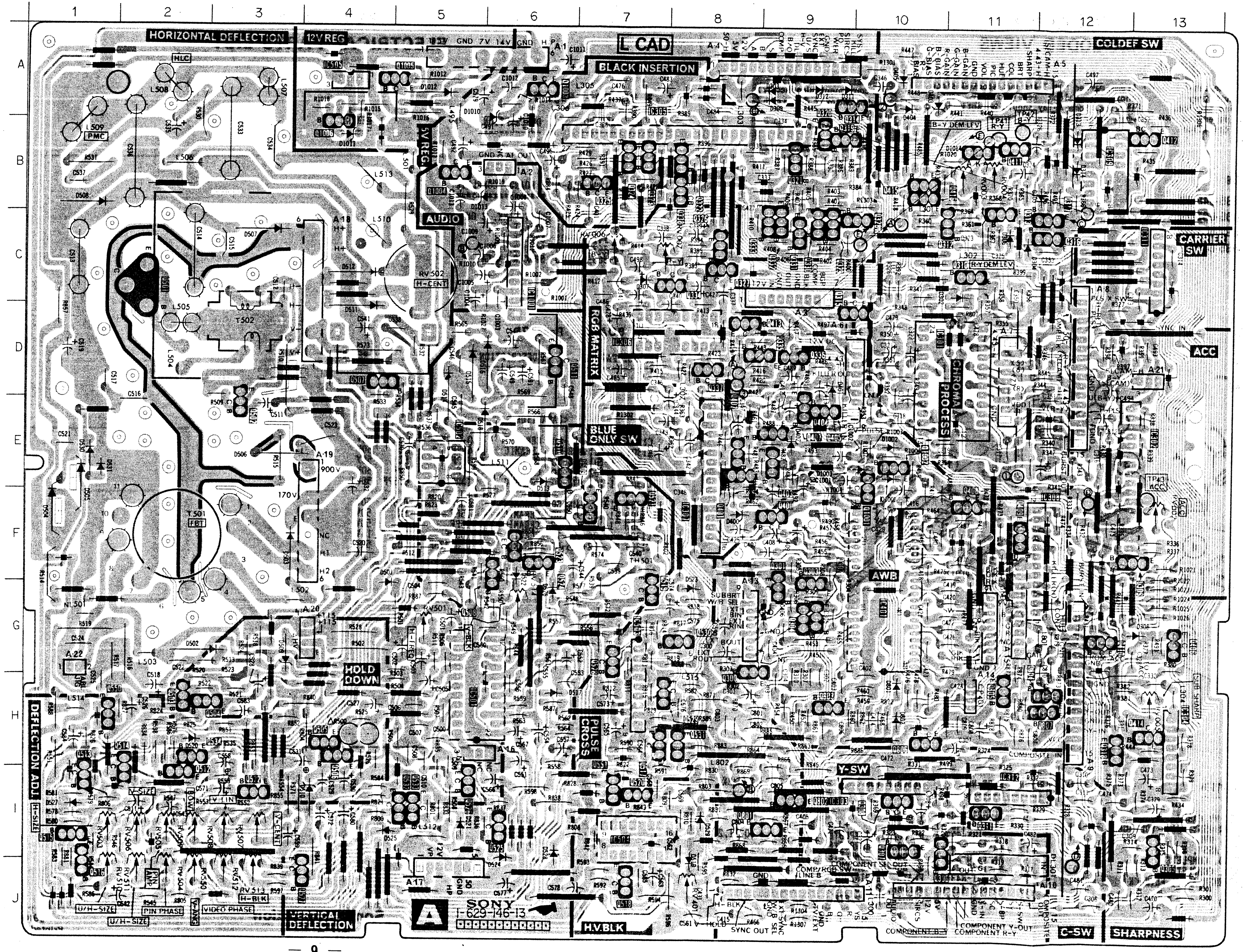

A-4
15P
WHT
:S-MICRO
TO FRONT CONTROLS
A-3
7P
WHT
:BTOB-P
TO U BOARD
U-1
TO W BOARD
W-2
A-2
3P
GRY
:MICRO
TO SPEAKER
A-17
5P
WHT
:BTOB-P
TO Y BOARD
Y-1
IC1001
AN5265
AUDIO
IC305
BLACK-INSERT
IC306
AN5613
RGB-MATRIX
IC401
CXA1024S
RGB-SW
IC503
BX7574
PULSE-CROSS
IC501
μPC1377C
DIFRECTION
Q1004
2SD774
12V-REG
D1013
RD13ESB3
+12V-REF-VOL
Q315
DTC144ES
DYNAM-PIC-SW
Q314
DTA144ES
H/V.DL-SW
Q322
DTC144ES
COMP.SW
Q338
DTC144ES
SW
Q323
DTC144ES
SW
Q336
2SA1175
PIC-VC-BUFF
Q335
2SA1175
COL-VC-BUFF1
Q337
2SC2785
COL-VC-BUFF2
Q413
2SC2785
PIC-VC-BUFF
Q324
2SA1175
V.BLK-INV1
Q325
2SC2785
V.BLK-INV2
D403
RD6.2ESB2
COL-LEVEL-SW
Q416
DTC124ES
COL-VC-MUTE
Q415
DTC124ES
SW
D1014
DAN209S
SW
Q517
2SC2785
H.SYNC
Q334
2SA1175
VOLT-REF
Q333
2SC2785
R-Y.AMP3
Q332
2SC2785
R-Y.AMP2
Q330
2SC2785
B-Y.AMP3
Q329
2SC2785
B-Y.AMP2
D307
1SS148
BIAS
Q531
2SC2785
Y.BUFF
Q530
2SC2785
CLAMP-SW
D523
1SS148
V.BLK-SW
Q529
2SC2785
CLAMP-BUFF
Q528
2SC2785
CLAMP-REF
Q327
2SC2785
Y-AMP2
Q326
2SC2785
Y-AMP1
Q320
2SA1175
Y-AMP2
Q321
2SA1175
Y-AMP3
Q400
2SD773
+9V-REG
D400
RD10ESL3
+9V-REF-VOLT
D1003
1SS148
SW
D1002
1SS148
SW
Q1001
2SA1175
MUTE1
Q1002
2SA1175
MUTE2
D1001
1SS148
Q511
2SC2690A
V.OUT2
D514
RH-1Z
V.OUT1
D515
RH-1Z
V.OUT2
D516
10E-2
V.OUT3
D526
1SS148
50/60-SW
Q524
DTA124ES
50/60-SW
Q523
DTC124ES
V.SIZE-SW
D522
1SS148
V.BLK-SW
D517
1SS148
V.SYNC
Q526
2SA1175
H.CENT-SW
D524
1SS148
H.CENT-SW
D528
1SS148
V.PULSE-SW
D311
1SS148
PROTECT
D405
1SS148
SW
D303
1SS148
SW
12V
9V
SYNC SEP
AFC
H-OSC


Q1500
2SC2785
V.PULSE
Q1502
DTA124ES
50/60-SW
IC1500
CX23025
50/60-SW
Q1501
2SC2785
H.PULSE
GND
50
60
VP
VDD
HP
Y (50/60 DISTINCTION)
VP
12V
HP
GND
50
Y-1
5P
WHT
:BTOB-S
TO A BOARD
A-17


TO A BOARD
BURST GATE
SYS KILLER
COLOR CONT
PLS ELIM1
PLS ELIM2
IC302⑥pin
D404 Ⓚ
Q337 Ⓑ
W-2
5P
RED
MICRO
D1400
1SS148
SYS-KIL-SW
Q1400
2SC2785
V-SYNCHRO-SW
IC1400
μPC358C
KIL-INV
Q1401
2SA1175
SYS-SELEC-SW
Q1402
2SC2785
KILLER-SW
Q1403
2SC2785
COL-CONT-KIL
CP1401
1T40 x 3
D1401
1SS148
KIL-IN-SW
12V
W
(3.58/4.43 DISTINCTION)
12V
OUT
KILLER IN
KILLER OUT
GND
V-PULSE
W-1
6P
WHT
:BTOB-P
TO A BOARD
A-6

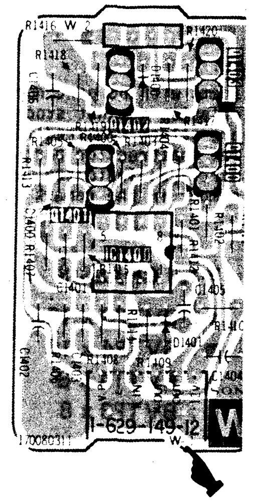
6-3. PRINTED WIRING BOARDS – *Conductor Side* – **A** [SIGNAL PROCESS, DEFLECTION SYSTEM]

– A Board – Page 32–35


1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G
H
I
J
HORIZONTAL DEFLECTION
12V REG
L CAD
BLACK INSERTION
COLDEF SW
HLC
PMC
5V REG
AUDIO
RV502 H-CENT
T502
T501 FBT
RGB MATRIX
BLUE ONLY SW
CARRIER SW
ACC
CHROMA PROCESS
AWB
HOLD DOWN
PULSE CROSS
Y-SW
DEFLECTION ADJ.
H-SIZE
V-SIZE
V-LIN
V-CENT
U/H-SIZE
PIN PHASE
V-ANG
VIDEO PHASE
PIN AMP
H-BLK
VERTICAL DEFLECTION
H.V.BLK
C-SW
SHARPNESS
SUBBRT
W/B SEL
SYNC IN
SYNC OUT
COMP/RGB SW
COMPONENT SEL OUT
COMPONENT B-Y
COMPONENT Y-OUT
COMPONENT R-Y
COMPOSITE IN
B-Y DEM LEV
R-Y DEM LEV
900V
170V
A
SONY
1-629-146-13

W [3.58/4.43 DISTINCTION]

– W Board –


W
1-629-149-12

SECTION 7
EXPLODED VIEWS

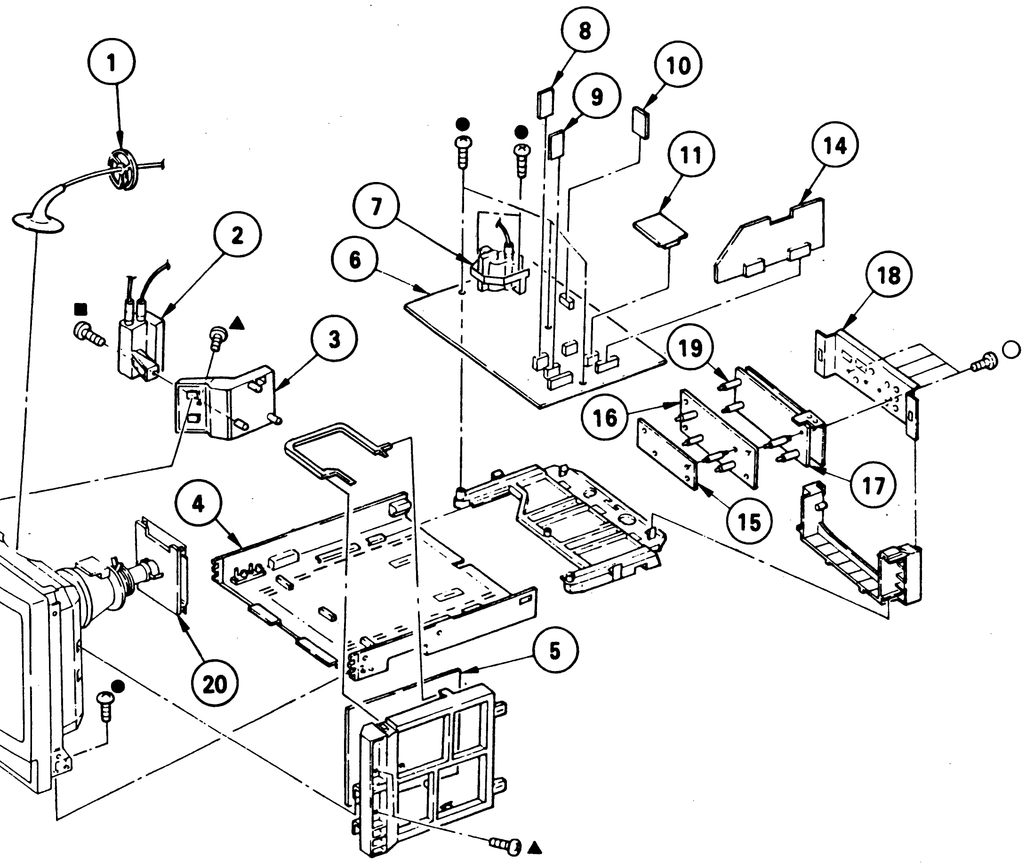
NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

7-1. CHASSIS Page 59

●: BVTP3 x 12 7-685-648-79
■: BVTP4 x 16 7-685-663-79
▲: BVTT4 x 8 7-682-561-04
○: BVTP3 x 8 7-685-646-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*3-704-372-01	HOLDER, HV CABLE		10	*1-629-150-11	Y BOARD	
2 ⚠	.1-237-614-12	RESISTOR ASSY, HIGH-VOLTAGE		11	*1-629-148-11	V BOARD	
3	*4-391-842-01	BRACKET, HVR		14	*A-1135-573-A	BA BOARD, COMPLETE	10,11,20
4	X-4391-805-1	CABINET ASSY, BOTTOM		15	*A-1270-249-A	QE BOARD, COMPLETE	
5	*A-1245-465-A	FE BOARD, COMPLETE		16	*A-1270-248-A	QD BOARD, COMPLETE	
☛ 6	*A-1291-616-A	A BOARD, COMPLETE	8,9	17	*A-1270-247-A	QC BOARD, COMPLETE	
7 ⚠	.1-439-395-12	TRANSFORMER ASSY, FLYBACK		18	4-391-843-11	PLATE, TERMINAL	
8	*1-629-149-12	W BOARD		19	*3-682-419-01	HOLDER, P.C.B	
9	*1-629-151-11	XA BOARD		20	*A-1330-986-A	C BOARD, COMPLETE	

SECTION 8
ELECTRICAL PARTS LIST

-A BOARD- Page 70

REF.NO.	PART NO.	DESCRIPTION	REMARK
☛	*A-1291-616-A	A BOARD, COMPLETE *****************	
	*4-329-153-00	HEAT SINK, V OUT	
	*4-341-751-01	EYELET	
	*4-341-752-01	EYELET	
	*4-363-404-00	HOLDER, IC	
	4-363-414-00	SPACER, MICA	

-XA BOARD- Page 78

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1300	1-101-005-00	CERAMIC	0.022MF		50V
C1301	1-101-888-00	CERAMIC	68PF	5%	50V
C1302	1-101-884-00	CERAMIC	56PF	5%	50V
C1303	1-102-942-00	CERAMIC	5PF	1PF	50V
C1304	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C1305	1-102-947-00	CERAMIC	10PF	0.5PF	50V
C1306	1-102-951-00	CERAMIC	15PF	5%	50V
C1307	1-102-951-00	CERAMIC	15PF	5%	50V
☛ C1308	1-126-101-11	ELECT	100MF	20%	16V
C1309	1-102-125-00	CERAMIC	0.0047MF	10%	50V

9-964-312-81

Sony Corporation
TV Group

English
891021 4-1
Printed in Japan
© 1989. 9